Thesis/
Reports
Anschuetz,
K. F.

Perspectives on Managing Multi-Cultural Landscapes: Use, Access, and Fire/Fuels Management Attitudes and Preferences...

FINAL REPORT

PERSPECTIVES ON MANAGING MULTI-CULTURAL LANDSCAPES:

USE, ACCESS, AND FIRE/FUELS MANAGEMENT ATTITUDES AND PREFERENCES OF USER GROUPS CONCERNING THE VALLES CALDERA NATIONAL PRESERVE (VCNP) AND ADJACENT AREAS

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VALLES CALDERA TRUST
VALLES CALDERA NATIONAL PRESERVE
JEMEZ SPRINGS, NM

USDA FOREST SERVICE JOINT VENTURE AGREEMENT NUMBER: 07-JV-11221602

COOPERATOR AGREEMENT NUMBER: KFA 2007-026

REV. FEBRUARY 10, 2014

ACKNOWLEDGEMENTS

This examination of the diverse use, access, and fire/fuels management attitudes and preferences of user groups concerning the Valles Caldera National Preserve (VCNP) and adjacent areas of the Jemez Mountains would not have been possible without the cooperation and support of many others. These individuals not only made invaluable contributions to this scientific enterprise, they also helped make this undertaking a much more enjoyable and enriching personal experience for me throughout this process.

I begin by singling out Carol B. Raish, Research Social Scientist (retired), USDA Forest Service, Rocky Mountain Research Station (RMRS), Albuquerque, NM, for overseeing the project, assisting in the conduct of each of the interviews reported herein, and providing keen insight and unwavering encouragement during the preparation of this report. I also appreciate Carol's continuing service to the project, both in providing administrative oversight and reviewing the draft manuscript as the writing progressed even after she retired from the agency. I also am grateful to Carol for agreeing to contribute the forward to this volume.

The 34 individuals who participated in this study's interviews—Craig Allen, Anthony Armijo, William Armstrong, Greg Cajete, Debbie and Charlie Carrillo, Bob Dryja, Dick Ford, Terry Foxx, Louie Hena, Dorothy Hoard, John Hogan, Tom Jervis, Tim Johnson, Chris Judson, Chick Keller, Greg Kendall, Fred Lucero, Orlando Lucero, Craig Martin, Anthony Moquino, Art Morrison, Gray Morton, Tito Naranjo, Peter Pino, Tom Ribe, Hilario Romero, Gilbert Sandoval, Georgia Strickfaden, Porter Swentzell, Don Usner, Roberto Valdez, Fred Vigil and Branden Willman-Kozimor—gave generously of their time and knowledge. At the time, it was not always easy finding people willing both to participate in this project and to share their forthright opinions while doing so. Looking back, I feel that Carol Raish and I were extremely privileged to have talked with the people that we did. Each of our interviews was remarkable, with every person sharing kindly of their backgrounds, experiences, and opinions. In doing so, these people made this report into something much more than I ever thought was possible at the outset. Carol and I left every interview not only in awe of what we had just learned, but also of the character and graciousness of the person with whom we had just talked. I am especially struck by the love of the Jemez Mountains that each of these individuals conveyed in framing their remarks. These participants also deserve acknowledgement for reviewing drafts of their interview transcriptions

and this manuscript. I am delighted that the many contributions that these people made will forever now stand as a demonstration in the multiplicity of cultural landscapes and the beauty of—and the epic meanings in—the landscapes in which all people live. Once again, thank you all.

I would like to thank Tom Merlan, an independent historian who lives and works in Santa Fe, for his work with Carol Raish in interviewing Timothy Johnson. The inclusion of this discussion in this study was helpful.

Hedy Dunn, Museum Director, Los Alamos Historical Society, Los Alamos, and Anastasia Steffen, Cultural Resources Coordinator, VCNP, offered helpful suggestions, contact information for a number of prospective candidates at the beginning of Phase I. They also facilitated several introductions. Tessie Naranjo and Rina Swentzell, both of whom are members of the Pueblo of Santa Clara, and Tim Coughlin, a resident of Jemez Springs, identified several people who ultimately agreed to participate in Phases II and III of the study, respectively. J. Michael Bremer, Forest Archeologist, SFNF, Santa Fe, and Anne Baldwin, District Archeologist, Espanola Ranger District, SFNF, Espanola, similarly provided valuable guidance and contract information during Phase III. The contributions of each of these people, although seemingly minor at first look, actually proved highly substantive. I offer Hedy, Ana, Tessie, Rina, Mike, and Anne sincere gratitude.

Ana Steffen subsequently provided a user review of the report manuscript. Kurt E. Dongoske, Principal Investigator and Tribal Historic Preservation Officer, Zuni Cultural Enterprise, Pueblo of Zuni, and T.J. Ferguson, Professor, School of Anthropology, University of Arizona, completed peer reviews. I am thankful to each of these individuals for making time in their busy schedules to read this volume and offer suggestions for its improvement.

Funding for this undertaking was provided by the National Fire Plan through the RMRS (Research Joint Venture Agreement Number 07-JV-11221602) and the Valles Caldera National Preserve, as authorized by the Valles Caldera Trust.

Although the many people and institutions listed above contributed to making whatever is good in this volume possible, I alone bear the responsibility of whatever remains weak and incomplete.

EXECUTIVE SUMMARY

The Valles Caldera Trust and the USDA Forest Service (USFS), Rocky Mountain Research Station (RMRS) joined in a collaborate effort during the final quarter of Fiscal Year 2007 to undertake the present study to provide land managers, including the USFS and the Valles Caldera National Preserve (VCNP), researchers, and members of the public with information concerning the use, access, and fire and fuels management attitudes and preferences of groups using the VCNP area and vicinity. Major funding was provided by the National Fire Plan through the RMRS, with additional funding contributed by the VCNP through the approval of the Valles Caldera Trust, in three phases (Fiscal Years 2007, 2008 and 2009).

The RMRS contracted with Dr. Kurt F. Anschuetz, an anthropologist and archaeologist to conduct this research and to report the findings presented in this volume through a Research Joint Venture Agreement (RJVA) Number 07-JV-11221602 (RJVA). Dr. Carol B. Raish, Research Social Scientist (now retired), RMRS, served as the Project Coordinator and was an active participant in the conduct of the data collection during the interview phases of the project.

The RJVA agreement was made under the provisions of the National Agricultural Research, Extension and Teaching Act of 1977 (Public Law 95-113), as amended by the Food Security Act of 1985 (7 U.S. Code 3318 and 3319, Public Law 99-198 [a.k.a. the 1985 U.S. Farm Bill]). As stipulated in this agreement, the USFS' interest in this effort was to facilitate communication and understanding on the part of the agencies, user groups, and the public on above-mentioned topics. The USFS also was interested in providing information concerning how views on fire and fuels management, use, and access might differ among the region's varying ethnic and cultural communities. Simultaneously, Anschuetz' s interest in the RJVA agreement is in developing research instruments, gathering data, and analyzing information concerning user group attitudes and preferences concerning use, access, fire and fuels management techniques, and risk reduction measures in the area.

The project was conducted in three phases. Phase 1, which was authorized in the fall of 2007 and completed in the spring of 2009, consisted of two tasks: (1) background research on forest and wildfire ecology, public perceptions of wildfire, and fire and fuels management to develop an Interview Instrument; and (2) the identification, recruitment, and interview of

knowledgeable study candidates. The first task was completed in during the late winter of 2008. During this effort, Anschuetz and Raish with 19 individuals, most of whom are residents of Anglo-American communities around the Jemez Mountains, between the spring of 2008 and the spring of 2009. Phases II and II, which were authorized in the falls of 2008 and 2009, respectively, but which were implemented concurrently, saw the expansion of the interviews with residents of other communities with significant ties to the Jemez Mountains. Phase II resulted in the completion of 6 interviews with Native American stakeholders, while Phase III led to the identification and interview of 7 additional individuals from traditional and historic Hispanic communities with intimate knowledge of and experience in the Jemez Mountains. In combination, the compilation of these 33 interviews contributes in-depth perspectives on the importance of the Jemez Mountains of these Native American and Hispanic communities and highlighted these resident's concerns with the importance of educating the youth in the traditional ways of their communities.

This volume presents the information, perceptions, and insights shared by the study contributors during the interviews in 19 chapters:

- Chapter 1 introduces the Jemez Mountains' physical, cultural-historical and wildfire contexts, the project's history and goals, and the report's organization.
- Chapter 2 makes explicit the theoretical framework that used to comprehend the layers of reference and meaning embedded in the thoughtful commentaries that the study's participants shared during their interviews concerning their perceptions, values, and attitudes toward the management of the VCNP and adjacent areas of the Jemez Mountains.
- Chapter 3 documents the methods and procedures used in implementing the study.
- Chapter 4 introduces the 33 people who contributed generously of their knowledge, insight, and time to this undertaking and summarizes selective highpoints of their contributions.
- Chapter 5 considers the study participants' perceptions of wildfire, including (1) the benefits of forest fire, (2) the roles that "Smokey Bear," "Bambi" and the mass media have had in profoundly shaping public ideas of wildfire, (3) the value of

aggressive wild fire suppression, and (4) people's emotional journeys to recovery after large-scale, devastating conflagrations.

- Chapter 6 explores the participants' views on wildfire management, including (1) the need for long-term holistic planning, (2) "let burn" policies, (3) passive-aggressive approaches in backcountry settings, (4) conservative-aggressive strategies with Wildland-Urban Interfaces, (5) our collective ability to learn from past management mistakes, (6) the efficacy of post-fire forest stabilization and restoration, and (7) the need to reconsider our collective values and expectations about our forests are becoming.
- Chapter 7 looks at topics related to fire fuels management, including (1) prescribed burning in backcountry and WUI forests generally and in the VCNP specifically, (2) the possible roles of thinning, mastication, mulching and herbicides, and (3) landowner responsibilities in protecting their personal property from wildfires.
- Chapter 8 examines the contributors' perceptions of (1) wilderness, (2) their responses to the question whether the VCNP is a wilderness, (3) urban residents' understanding of landscape, and (4) the need for solitude.
- Chapter 9 addresses the formidable challenge to the VCNP's managers to find common ground in managing public access and a diverse range of activities and resources, including (1) ranching, (2) logging, (3) recreation, (4) elk and other wildlife, (5) habitat restoration, and (6) heritage and geothermal resources within the Valles Caldera.
- Chapter 10 presents the opinion shared among most of the study's participants that the VCNP should be cast as an education and science center commensurate with what they perceived to be one of the Preserve's greatest national values, provided that research endeavors do not to impede other activities.
- Chapter 11 surveys the collaborators' opinions about possible alternative management models for the VCNP, including those used by (1) the USFS, (2) the National Park Service (NPS), and (3) the country's National Wildlife Preserves.
- Chapter 12 reviews other issues and topics regarding the administration of the VCNP, including (1) the needs of equal access to recreational, ranching and

entrepreneurial opportunities, (2) the desire for respectful access for traditional and historic Native American community members who maintain significant cultural affiliations with the Valles Caldera, (3) advocacy, (4) views of the Preserve's enabling legislation and the Board of Trustees, (5) relations with Affiliated Tribes and neighboring Hispanic communities, and (6) liability insurance.

- Chapter 13 inspects traditional uses of the Jemez Mountains by the regions Native American and Hispanic communities for fuel wood, logging, plant gathering, hunting, fishing, mineral collection, ranching, and farming.
- Chapter 14 explores the views, attitudes and perceptions of the Jemez Mountains' rural communities that inform (1) the people's understandings of their customary use areas and home, (2) the basis of their systems of traditional education.
- Chapter 15 presents how members of the region's traditional and historic settlements construct their world views and customarily framed their interaction with the Jemez Mountains' landscape in terms of by stewardship principles and community-based management approaches.
- Chapter 16 examines how residents of the Jemez Mountains' rural communities have viewed fire in the forests upon which they traditionally and historically depended for their material and spiritual welfare.
- Chapter 17 both gauges rural resident's views on regional public lands planning initiatives, which (1) ignore or disrespect intimate local knowledge and experience, (2) place restrictions on traditional practices and burden existing infrastructure, and (3) documents recommended actions to resolve these problems.
- Chapter 18 summarizes rural resident's views of environmental change in the Jemez Mountains.
- Chapter 19 (1) reviews selected key points that study participants raised in their commentaries, (2) outlines the challenges inherent to the management of multi-cultural landscapes, and (3) defines a matrix of stakeholder community relationships relevant to the implementation of a landscape approach.

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FOREWORD

Carol Raish, Rocky Mountain Research Station

Research Social Scientist (Retired)

The lands encompassing the Valles Caldera National Preserve (VCNP), comprising 88,900 acres (35,560 hectares) of the former Baca Location No. 1 Land Grant, were purchased by the federal government from private owners in 2000. The Preserve is located west of Los Alamos, New Mexico, and north of Jemez Springs, New Mexico, and consists of a bowl-like valley formed by the collapse of two volcanic domes following explosive eruptions about 1.6 and 1.2 million years ago (Anschuetz and Merlan 2007; Martin 2003).

The area is known for its scenic beauty, geological features, and diverse plants and animals. Although the Preserve may appear pristine to the casual onlooker, intensive grazing, timbering, and mineral and geothermal exploration and development have occurred there for many years (USDA Forest Service 1993).

In 2002, the Staff and Board of Trustees of the VCNP contacted the Albuquerque Laboratory of the Rocky Mountain Research Station (RMRS), U.S. Department of Agriculture Forest Service (USFS), concerning providing VCNP funding to the RMRS for the development of a land-use history to inform management of the Preserve. The RMRS had considerable interest in the proposal because Forest Service Research is responsible for ongoing research on the land-use history of aboriginal, traditional, and contemporary peoples in the varied landscapes of the Southwest, including northern New Mexico and the area of the Valles Caldera. In addition, the Forest Service is interested in providing the VCNP managers with information on the economic, social, and ideational relationships that various surrounding communities maintain with the Valles Caldera.

Thus, the RMRS developed a research agreement with the Rio Grande Foundation for Communities and Cultural Landscapes of Santa Fe, New Mexico, in 2002 to research and prepare a land-use history of the Preserve, which would document the interactions of the culturally diverse groups of the area with the landscape of the Valles Caldera over time. The work would provide a chronological study of the economic, social, and ideational relationships that culturally diverse Native American, Hispanic, and Anglo-American communities have maintained with the locality. Dr. Kurt F. Anschuetz, an anthropologist/archeologist, and Mr. Thomas Merlan, a historian, conducted the research. The work focuses on the cultural-historical environment of the Preserve over time including pre-European and post-European contact periods. Land-use activities, the social organization framing them, and the identities of associated communities and their impacts upon the environment are discussed. The authors used a wide range of sources and materials to produce the report including published and unpublished historical, ethnohistorical, and ethnographic literature, as well as maps, texts, letters, diaries, business records, photographs, land and mineral patents, and court testimony (Anschuetz and Merlan 2007). The ample literature review provided in the publication is presented in an annotated bibliography. The report was completed in 2004 and published in 2007 as a General Technical Report (GTR), *More than a Scenic Mountain Landscape: Valles Caldera National Preserve Land Use History.*

As noted by the authors (Anschuetz and Merlan 2007), the land-use history research agreement did not include provisions for a formal program of ethnographic investigation to conduct interviews with persons knowledgeable about the VCNP. This type of information is needed to build a comprehensive understanding of how communities and groups create and sustain social and ideational associations with a landscape. In order to expand understanding and provide this information, as well as to explore specific issues of use, access, and fire/fuels management on the Preserve, the RMRS developed a second research agreement in 2007 with Dr. Anschuetz. The Valles Caldera Trust also provided funding for this new project with the majority provided by the RMRS through funding from the National Fire Plan. The stated purpose of the project (reported here) is to provide land managers, including the Forest Service and the VCNP, researchers, and the public with information concerning the use, access, and fire and fuels management attitudes and preferences of groups using the VCNP area and vicinity. The increasing incidence of wildfires in the Southwest, coupled with the desire of VCNP staff to

implement an active prescribed burning and fire management program, set the tone for the project research. Both agencies are also interested in understanding how views on fire and fuels management and wildfire risk reduction measures, as well as issues of use and access, might differ among the region's varying cultural communities.

At the outset of the project, substantial background information was collected from a literature review of existing research on forest and wildfire ecology, public perceptions of wildfire, and fire and fuels management on lands comprising the Preserve and adjoining areas of the Jemez Mountains. The author used this information to guide development of the general expert interview format. Anschuetz (2008) reported this work in the late winter of 2008.

Data were gathered by means of in-depth, flexible expert interviews with selected area users and residents, such as ranchers, recreationists, hunters, outfitter guides, environmental educators, and fire ecologists. These interviews occurred in the first phase of the project during 2008 and 2009, with one additional interview included from a 2007 pilot effort. Anschuetz designed and conducted the interviews with assistance from Dr. Carol Raish, Research Social Scientist, RMRS. The earlier pilot interview was completed by Mr. Merlan and Raish. Preliminary analysis and write-up of the Phase I Progress Report was completed in 2010 (Anschuetz 2010).

Phases II and III of the project comprise interviews with people from Native American and Hispanic communities in the Jemez Mountain area. These interviews were undertaken during 2011 and 2012. In addition to discussions of fire and fuels management, these interviews brought an in-depth perspective on the role and importance of the Jemez Mountains to the people of these traditional Native American and Hispanic communities and highlighted their concerns with the importance of educating the youth in the traditional ways of their communities. The Phase II and III Progress Report was submitted in fall 2012 (Anschuetz 2012).

This volume combines all information from the literature reviews and interviews undertaken in association with Phases I, II, and III of the project. It presents a detailed discussion of the theoretical framework underlying the analysis as developed and used by the author to comprehend the many layers of meaning embedded in the participant's comments concerning their perceptions, values, and attitudes toward management of the VCNP and

surrounding areas. Anschuetz views these perceptions, values, and attitudes as conditioned by the respondent's cognitive experience of the world, guided by the traditions of their cultural communities (Anschuetz this report). A description of the research methods used to conduct the study follows the theoretical review. These sections lead into a presentation of interview summaries for each of the participants. Discussions of public perceptions of wildfire, wildfire management, fire fuels management, and public perceptions of wilderness follow, are drawn from the interview information. The wide-ranging backgrounds and views of the participants lead to an examination of the challenges of finding common ground for managing the Preserve amid the multiple desired uses of the locality. However, issues of access to the lands of the Preserve crosscut the comments of virtually all the user groups—forming a common theme. Following chapters detail the views and attitudes of traditional community members—primarily Native American and Hispanic—concerning traditional uses of the mountain and how those uses should be supported and maintained by healthy management practices and access for those whose heritage lies in the mountain.

Anschuetz ably characterizes the values and concerns this study has brought forth in his concluding comments. Those interviewed

> *voiced their opinions about what constitutes appropriate access to, uses of, and fire and fire fuels management in the VCNP and adjacent areas in the Jemez Mountains. Although they come from diverse cultural, educational, and experiential backgrounds, their love for the Jemez Mountains is unconditional. Each person's embrace of this landscape is genuine and moving; every participant desires to be a part of this physiographically, ecologically, culturally, and historically remarkable setting. The Jemez Mountains—or at least the portions of this range that the project's contributors have come to know through their experiences—not only are a part of their home. These mountains are also a part of who they are.*

The singular importance of this work lies in bringing these views, attitudes, values and concerns to light.

CHAPTER 1
INRODUCTION

The Valles Caldera National Preserve (VCNP), which consists of a large, 1.2- to 1.6-million-year-old volcanic caldera, forms the heart of the Jemez Mountains in north-central New Mexico (Figure 1). Known as the Valles Caldera, this bowl-shaped hollow is an especially treasured place within this beloved mountainous landscape for many residents of the region. Its *valles* (valleys), *cerros* (hills), and slopes of its encircling mountains are largely contained within the 89,900-acre (35,560-hectare) Preserve, which is celebrated by people regionally, nationally and internationally for its scenic meadows and abundant wildlife, including herds of elk.

Acquired in 2000 with the passage of the Valles Caldera Preservation Act by Congress, the VCNP encompasses major portions (89.5%) of the land originally held in private ownership as the Baca Location since 1860 (Anschuetz and Merlan 2007).[1] The VCNP is currently managed by the Valles Caldera Trust for public purposes.[2]

Recognizing the need for information about public desires and concerns that decision makers, including the Trustees and management staff can use in their efforts to promote greater understanding and support for fuels reduction and restoration initiatives, the U.S. Department of Agriculture Forest Service (USFS) Rocky Mountain Research Station (RMRS) and the VCNP

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[1] Of the other 10,389 acres [4,455 ha] of the original 99,289-acre [40,180-ha] land grant, 5,343 acres [2,137 ha] were transferred to private interests before 2000 and were outside the scope of the congressional act. Santa Clara Pueblo was authorized by the law to buy the remaining 5,046 acres [2,018 ha] at the northeast corner of the Baca Location that form the headwaters of Santa Clara Creek.

[2] Seven of the Trust's nine members serve on the federally-charged oversight board through presidential appointment. The Supervisor of the Santa Fe National Forest and the Superintendent of Bandelier National Monument are the other two Trust members.

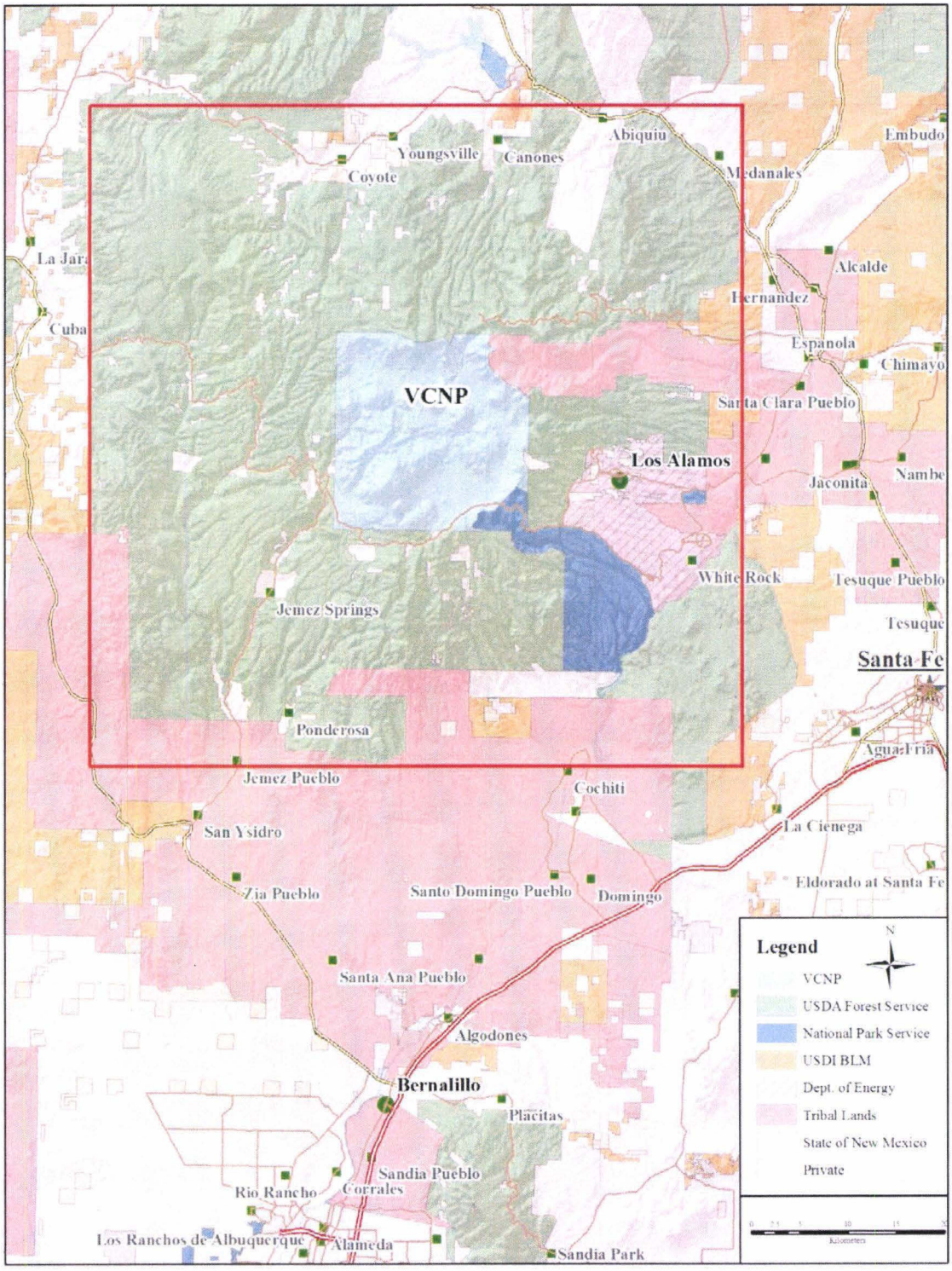

Figure 1. VCNP and Jemez Mountains Study Area.

Trust funded an initiative to conduct comprehensive interviews with Anglo-American, Native American, and Hispanic stakeholders. The purpose of this initiative is to solicit diverse stakeholders' personal preferences and views on what constitutes appropriate use, access, and fire/fuels management in the Preserve and the surrounding Jemez Mountains.

The Setting

The VCNP and the surrounding Jemez Mountains share a long history of human use, with many Native American groups considering the caldera and its volcanic domes sacred (Anschuetz and Merlan 2007). Between the latter half of the nineteenth century and its purchase by the U.S. a decade ago, livestock grazing and industrial timbering were the area's primary uses.

The base elevation of the Valles Caldera exceeds 8,000 feet (2,439 m) and is some 3,000 feet (915 m) below the level of the lava-dome summits, which form the caldera's rim. The highest of the VCNP's summits is most commonly known today by its Spanish name *Cerro Redondo* (Round Hill) and rises to an elevation of 11,254 feet (3,431 m). This peak is also the headwaters of the Rio Jemez, which flows past the Pueblos of Jemez, Zia and Santa Ana, as well as the Hispanic communities of Jemez Springs, San Ysidro and Bernalillo, around the south margin of the Jemez Mountains on its way to the Río Grande (Figure 1). Fed by runoff, seeps, and springs, some of the Rio Jemez's many tributary streams, including the East Fork Jemez River, Redondo Creek, San Antonio Creek and San Francisco Canyon, drain the Valles Caldera's central and southern flanks. The Rio Cebolla, which is fed by the VCNP's west rim, and the Rio de las Vacas and the Rio Guadalupe, which drain major parts of the western Jemez Mountains, also flow into the Rio Jemez.

Located just outside the Preserve's northeast corner is Chicoma Mountain, whose 11,556 foot (3,524 m) elevation, makes it the highest summit in the Jemez Mountains. This peak forms the headwaters of the drainages on the Jemez Mountains' eastern and northeastern sides. The Borrego, Seguro, Peralta, Cochiti, Frijoles, and Pajarito canyons, Santa Clara Creek, and the Rio del Oso are among the most important streams that rise from Chicoma's slopes. The largest Native American settlements include the Pueblos of San Felipe, Cochiti, Kewa (formerly called

Santo Domingo), San Ildefonso, Santa Clara, and Ohkay Owingeh. The principal traditional and historic Hispanic villages on Chicoma's east side are Peña Blanca and Hernandez.

The Abiquiu, Cañones, Coyote, and Poleo creeks are among the principal streams on the Jemez Mountains' north margin. Major Hispanic communities include Abiquiu, Cañones, El Rito de los Encinos (now more commonly known by non-residents by its Youngsville Post Office designation), and Coyote. There are no resident Native American communities in the immediate vicinity, although the remnant of one large ancestral Tewa Pueblo village, Tsi'pin (see Harrington 1916), occupies a high mesa on the north edge of the range.

Albuquerque, Santa Fe, and Los Alamos are the focal urban settings in the Jemez Mountains' viewshed. Espanola, which lies a short distance beyond the range's eastern foothills in a physiographic basin that centers on the confluence of the Rio Grande and Rio Chama, is neither a traditional and historic community per se, nor is it yet a truly cosmopolitan nub despite its rapid growth in recent decades. The small community of Cuba borders the Jemez Mountains' west flanks.

The Jemez Mountains' many rivers and streams not only were a source of water for human communities downstream. These waterways also defined major corridors for travel into and across the Jemez Mountains historically. The region's inhabitants were not only dependent upon the mountains' forests, meadows, and minerals for their material welfare. Their relationships with the Valles Caldera and the mountain's many other features, including its water, plants, animals and minerals, were (and still are) intimate and emotionally charged. Over many centuries—and in some cases, the passage of millennia—the residents of the area's traditional and historic communities came to view themselves as the land's stewards, ensouled the landscape through their spirituality, and created senses of identity and well-being through their interactions with the Jemez Mountains.

Cultural-Historical Context

(after Anschuetz and Merlan 2007)

The land-use history of the VCNP and the surrounding peaks, high-altitude meadows, and dissected mesas of the Jemez Mountains extends back over thousands of years for the area's Native American communities. Although no known archaeological properties in the Valles

Caldera date to the Paleoindian period (10,000/9500–5500 B.C.), investigators have recovered artifacts made of distinctive obsidian and chert resources native to the Jemez Mountains. For example, the distribution of Jemez obsidian across the northern Southwest from archaeological sites dating to the late Pleistocene and the early Holocene is wide. This pattern suggests that hunters of now-extinct large game animals, such as mammoth (*Mammuthus primigenius*) and a kind of bison (*Bison antiquus*), were among the first people to visit the Valles Caldera and the greater Jemez Mountains region.

Many culturally diverse peoples visited and used the Valles Caldera and Jemez Mountains over the nearly eight millennia subsequent to the Paleoindian period. Archaeologists use artifacts and other durable traces to construct a history of land use by Archaic period (5,500 B.C.-A.D. 600) hunters and gatherers and pre-Columbian Pueblo Indians (A.D. 600-1600), who are among the forebears of the people of Jemez Pueblo and the Jemez Mountains' other Pueblo communities. Researchers cite the hunting of game, the gathering of plant resources, and the collection of obsidian for the manufacture of stone tools as the main reasons for the short-term, warm-season use of the locale.

Spanish colonial documents (1540–1821) report the periodic presence of Navajo and Hispanic groups in the Valles Caldera and the greater Jemez Mountains region. These accounts characteristically describe the Navajos as impediments to the seasonal use of the property's rich grasslands by the colonists' flocks and herds. Navajo war parties periodically raided the region's Hispanic and Pueblo settlements. The Hispanics and Pueblos answered with punitive military forays.

During the Mexican Period (1821–1846), Hispanic settlement moved into the Jemez Mountains and closer to the Valles Caldera. Although the high altitude settings within the Valles Caldera proper would not to see year-round habitation for nearly another century, settlements, such as San Lorenzo, Los Recheulos, Vallecitos and Mesa Poleo, became increasingly common on the Jemez Mountains' elevated flanks. An occasional Anglo-American trapper worked the Jemez Mountains' rivers and ponds. In general, the Jemez Mountains was a commons upon which the residents of the region' culturally diverse resident traditional and historic communities depended.

Soldiers and settlers in the U.S. Territorial Period (1846–1912) mention the presence of Apaches and Utes in the Valles Caldera. From the 1850s to the 1880s, the U.S. Army fought the nomadic tribes of the Southwest and forced them to settle on reservations. Anglos and Hispanics began large-scale—although seasonal—commercial use of the caldera. The resolution of the Indian problem transformed the Valles Caldera from unclaimed mountainous wilderness to a recognized private land grant.

In 1860 the U.S. Congress authorized the heirs of Luis María Cabeza de Baca to select alternative lands, including what became known as the Baca Location No. 1, in exchange for termination of all rights to their grandfather's 1821 grant on the Gallinas River in northeastern New Mexico. The New Mexico Surveyor General completed the survey of the 99,289-acre (40,180-ha) Baca Location No. 1 (Baca Location) in 1876.

Throughout much of the twentieth century, the land-use history of the Valles Caldera consisted of a series of actions by private individuals and business interests, including Bond Family members and New Mexico Timber Company, principally for their material benefit. Over the same time span, vast tracts of the surrounding Jemez range subsequently were increasingly federalized. The consequences of these private and federal changes were weighty: common lands that had been accessible for the benefit of many area residents became increasingly regulated, largely for the material benefit of a comparative few. Consequently, the region's Native American and Hispanic residents, who had formerly interacted with the Jemez Mountains' landscape as a multi-community commons, faced increasing restrictions on their access and activities.

The thousands of years of human land use before 1876 left comparatively few lasting traces throughout the Jemez Mountains. In contrast, the exploitation of the Valles Caldera and other parts of the Jemez Mountains for commercial ranching, industrial-scale timber development, mineral extraction, and geothermal exploration from 1876 to the end of the twentieth century has deeply marked the physical appearance and historical ecology of this mountainous setting. It also has profoundly shaped public perceptions of the nature of the landscape before and after the arrival of Anglo-Americans in the nineteenth century.

The pattern of restriction of access to the Valles Caldera by private interests persisted until the U.S. purchased most of the former Baca Location No. 1 from the James Patrick Dunigan Estate in 2000. In the eyes of many residents of the region, regardless of their ethnicity and residence, consider the Valles' public lands status as effectively existing largely in name only. People now clamor for greater access to this landscape for a wide variety of personal and small-scale entrepreneurial activities.

Historical Context of Wildfire

As documented in tree-ring records, fire occurred regularly throughout the Jemez Mountains during pre-European settlement times (e.g., Allen 2002). Native flora and fauna were adapted to these frequent burns, which played an essential part of the region's ecology by maintaining a patchwork of habitats in various stages of post-fire recovery across the dimensions of space and time. The area's indigenous peoples also depended on these fires for sustaining their relationships with the plants and animals; the people's traditional life ways depended on access to ecologically diverse forest habitats. Fire suppression policies, which were adopted in the late nineteenth century, in part, to enhance the production of commercially valuable timber resources, have played a contributing role in the reduction in ecological diversity throughout the Jemez Mountains (e.g., Allen 1989). For example, trees of particular species and ages now grow in stands that are much larger and more homogeneous than those of only a few centuries earlier. These same fire suppression policies also have contributed to increased fire fuel loads in the region's forests by allowing the growth of denser timber stands and the accumulation of duff and dead wood. Consequently, the forests within the VCNP and on the surrounding Jemez Mountains slopes, are increasingly at risk for experiencing catastrophic wildfire.

Project History and Goals

Today, through the legislation that Congress used to authorize the purchase and creation of the VCNP, the Valles Caldera Trust has a mandate to maintain sustainable resource use, reduce fuels to prevent catastrophic wildfire, and enhance recreation within the framework of a working ranch. The Board of Trustees and the VCNP's managers are working to fulfill these mandates by planning work to reintroduce fire in the ecosystem and conduct thinning projects. They are also examining how grazing, by cattle and a rapidly growing elk population alike, can

either enhance or hinder their ability to fulfill their mandate under varying natural environmental conditions and land use practices over time.

Because the Valles Caldera occupies a highly visible place in the hearts and minds of many members of the public, from Native Americans to ranchers and recreationists, the Valles Caldera Trust and the RMRS joined in a collaborate effort in 2007 to undertake the present study, which they titled, *Use, Access, and Fire/Fuels Management Attitudes and Preferences of User Groups Concerning the Valles Caldera National Preserve (VCNP) and Adjacent Areas*. Major funding was provided by the National Fire Plan through the RMRS, with additional financial backing provided by the VCNP through the approval of the Valles Caldera Trust.

As stated in Research Joint Venture Agreement Number 07-JV-11221602 (RJVA) between the RMRS and Kurt F. Anschuetz under the provisions of the National Agricultural Research, Extension and Teaching Act of 1977 (Public Law 95-113), as amended by the Food Security Act of 1985 (7 U.S. Code 3318 and 3319, Public Law 99-198 [a.k.a. the 1985 U.S. Farm Bill]), the purpose of this initiative,

> is to provide land managers, including the Forest Service and the Valles Caldera National Preserve (henceforth "the VCNP," "the Preserve," or the Valles), researchers, and members of the public with information concerning the use, access, and fire and fuels management attitudes and preferences of groups using the VCNP area and vicinity. [USDA Forest Service 2007:1]

As stated further in the RJVA, the USFS' (2007) interest in this agreement is to facilitate communication and understanding on the part of the agencies, user groups, and the public on above-mentioned topics. The USFS also expressed its interested in providing information concerning how views on fire and fuels management, use, and access might differ among the region's varying ethnic and cultural communities. Concurrently, Anschuetz's interest in the RJVA agreement is in developing research instruments, gathering data, and analyzing information concerning user group attitudes and preferences concerning use, access, fire and fuels management techniques, and risk reduction measures in the area (USFS 2007).

The USFS and Anschuetz identified the development of the previously discussed body of information cooperation to be in their mutual benefit and interest (USFS 2007). Through the

participation of Dr. Carol B. Raish, Research Social Scientist (now retired), RMRS, in this imitative as both as the Project Coordinator and an active participant in the conduct of the data collection during the interview phases of the project, this collaboration combined separate facilities, skills, knowledge, and personnel to produce innovative data gathering, evaluation, analysis, and interpretation for the benefit of fire, access, and use research in general.

The project was funded in three phases. Phase 1, which was authorized in the fall of 2007 and completed in the spring of 2009, consisted of two tasks: (1) background research on forest and wildfire ecology, public perceptions of wildfire, and fire and fuels management to develop an Interview Instrument; and (2) the identification, recruitment, and interview of knowledgeable study candidates. The first task was completed in during the late winter of 2008 (Anschuetz 2008). In-depth interviews were conducted with 19 individuals, most of whom are residents of Anglo-American communities around the Jemez Mountains, between the spring of 2008 and the spring of 2009. Discussions emphasized fire and fuels management approaches, as well as a host of issues related to the access and use of the VCNP. In addition of these 19 interview, the proceeds of an earlier dialogue with Mr. Timothy Johnson, which Raish and Mr. Thomas Merlan, Consulting Historian, Santa Fe, conducted on January 19, 2007, were incorporated into this effort. Preliminary analysis and write-up of the Phase I interviews were completed in 2010 (Anschuetz 2010).

Phases II and III received authorization in late 2008 and 2009, respectively. Phase II funding supported the continuation of the interview effort with Native American stakeholders, while Phase III was designed to interview individuals from traditional and historic Hispanic communities with intimate knowledge of and experience in the Jemez Mountains. Interviews were completed concurrently during 2011 and 2012 after a time-consuming effort to identity individuals who possessed understanding and insight, and were also willing to participate in these proceedings. In addition to discussions of fire and fuels management, these 13 additional interviews contributed in-depth perspectives on the importance of the Jemez Mountains of these Native American and Hispanic communities and highlighted these resident's concerns with the importance of educating the youth in the traditional ways of their communities. A combined Phase II and III Progress Report was submitted in fall 2012 (Anschuetz 2012).

Report Organization

This volume presents the information, perceptions, and insights shared by the study contributors during the 32 interviews completed during this project, along with Raish and Merlan's earlier contribution. In addition to this introduction, this report consists of the following chapters:

- Chapter 2 makes explicit the theoretical framework that used to comprehend the layers of reference and meaning embedded in the thoughtful commentaries that the study's participants shared during their interviews concerning their perceptions, values, and attitudes toward the management of the VCNP and adjacent areas of the Jemez Mountains.
- Chapter 3 documents the methods and procedures used in implementing the study.
- Chapter 4 introduces the 33 people who contributed generously of their knowledge, insight, and time to this undertaking and summarizes selective highpoints of their contributions.
- Chapter 5 considers the study participants' perceptions of wildfire, including (1) the benefits of forest fire, (2) the roles that "Smokey Bear," "Bambi" and the mass media have had in profoundly shaping public ideas of wildfire, (3) the value of aggressive wild fire suppression, and (4) people's emotional journeys to recovery after large-scale, devastating conflagrations.
- Chapter 6 explores the participants' views on wildfire management, including (1) the need for long-term holistic planning, (2) "let burn" policies, (3) passive-aggressive approaches in backcountry settings, (4) conservative-aggressive strategies with Wildland-Urban Interfaces, (5) our collective ability to learn from past management mistakes, (6) the efficacy of post-fire forest stabilization and restoration, and (7) the need to reconsider our collective values and expectations contributed about our forests are becoming.
- Chapter 7 looks at topics related to fire fuels management, including (1) prescribed burning in backcountry and WUI forests generally and in the VCNP specifically, (2) the possible roles of thinning, mastication, mulching and

herbicides, and (3) landowner responsibilities in protecting their personal property from wildfires.

- Chapter 8 examines the contributors' perceptions of (1) wilderness, (2) their responses to the question whether the VCNP is a wilderness, (3) urban residents' understanding of landscape, and (4) the need for solitude.
- Chapter 9 addresses the formidable challenge to the VCNP's managers to find common ground in managing public access and a diverse range of activities and resources, including (1) ranching, (2) logging, (3) recreation, (4) elk and other wildlife, (5) habitat restoration, and (6) heritage and geothermal resources within the Valles Caldera.
- Chapter 10 presents the opinion shared among most of the study's participants that the VCNP should be cast as an education and science center commensurate with what they perceived to be one of the Preserve's greatest national values, provided that research endeavors do not to impede other activities.
- Chapter 11 surveys the collaborators' opinions about possible alternative management models for the VCNP, including those used by (1) the USFS, (2) the National Park Service (NPS), and (3) the country's National Wildlife Preserves.
- Chapter 12 reviews other issues and topics regarding the administration of the VCNP, including (1) the needs of equal access to recreational, ranching and entrepreneurial opportunities, (2) the desire for respectful access for traditional and historic Native American community members who maintain significant cultural affiliations with the Valles Caldera, (3) advocacy, (4) views of the Preserve's enabling legislation and the Board of Trustees, (5) relations with Affiliated Tribes and neighboring Hispanic communities, and (6) liability insurance.
- Chapter 13 inspects traditional uses of the Jemez Mountains by the regions Native American and Hispanic communities for fuel wood, logging, plant gathering, hunting, fishing, mineral collection, ranching, and farming.
- Chapter 14 explores the views, attitudes and perceptions of the Jemez Mountains' rural communities that inform (1) the people's understandings of their customary use areas and home, (2) the basis of their systems of traditional education.

- Chapter 15 presents how members of the region's traditional and historic settlements construct their world views and customarily framed their interaction with the Jemez Mountains' landscape in terms of by stewardship principles and community-based management approaches.
- Chapter 16 examines how residents of the Jemez Mountains' rural communities have viewed fire in the forests upon which they traditionally and historically depended for their material and spiritual welfare.
- Chapter 17 both gauges rural resident's views on regional public lands planning initiatives, which (1) ignore or disrespect intimate local knowledge and experience, (2) place restrictions on traditional practices and burden existing infrastructure, and (3) documents recommended actions to resolve these problems.
- Chapter 18 summarizes rural resident's views of environmental change in the Jemez Mountains.
- Lastly, Chapter 19 (1) reviews selected key points that study participants raised in their commentaries, (2) outlines the challenges inherent to the management of multi-cultural landscapes, and (3) defines a matrix of stakeholder community relationships relevant to the implementation of a landscape approach.

CHAPTER 2
TRADITIONS OF COGNIZED EXPERIENCE: CULTURALLY-INFORMED UNDERPINNINGS OF COMMON SENSE VIEWS, ATTITUDES, AND PERCEPTIONS

Introduction

The purpose of this chapter is to make explicit the framework that I have used to comprehend the layers of reference and meaning embedded in the thoughtful commentaries that the study's participants shared during their interviews concerning their perceptions, values, and attitudes toward the management of the VCNP and adjacent areas of the Jemez Mountains. The diversity of experiences and insights documented during these conversations was initially overwhelming. Nonetheless, during examination, it became increasingly apparent that the "patterns which connect" (Bateson 1978) are not just topical and thematic; they also exhibit a deeper level of patterning informed by each respondent's cognitive experience of the world, as guided by the traditions of the cultural communities in which they are members.

The following discussion consists of four major parts. The first section examines the building blocks of people's cognitive foundations. These include that which at first appears to be mutually exclusive baseline elements: culture and nature. While culture shapes and gives meaning to people's perceptions, values, attitudes, beliefs, common sense understandings, and world view, cultural traditions organize and guide the flow of information about the world transmitted among the members of their respective communities from one generation to the next. Nature, rather than standing in opposition to culture, is itself a cultural construct whose meaning is similarly informed by tradition. Moreover, within the breadth of its conceptualizations, the ideas of nature-as-women, -home, -household, and –nurture are common. This discussion concludes with a consideration of how prevailing ideas of culture and nature, rather than

representing irreconcilable oppositions, actually a system of mutually reinforcing complementarities.

The second part considers cognitive frameworks that structure and motivate people's opinions. The narrative begins with a review of the *landscape* concept. Landscapes are the product of the interaction of nature and culture, with each cultural community constructing and maintaining relationships with its own landscape. Given this elemental principle in mind, the discussion shows that a piece of geographic spaced shared in common by culturally diverse communities, will be part of multiple landscapes based on contrasting world views and often given contrasting meanings. This discussion also examines how divergent landscape constructions might differentially comprehend significant features as commodities and processes, while sharing a cognized theme in common, *center/periphery*, which provides a framework that people use to orient—and understand—their place in the world. This exploration of cognitive frameworks continues with considerations of landscape-as-home, -wilderness, and –time remembered. People's bonds with places within their landscapes, and the various roles that memories and history play in establishing and maintaining these affiliations, strongly condition the characteristics and qualities of significance they perceive in their environments.

The third part of this chapter surveys the challenges inherent to managers given landscapes' multi-temporal dimensionality and variable relationships with history. The discussion examines contrasting views of the relationship between landscape and memories, and the high probability that the landscape construction of one community will conflict with those of other affiliated groups. It also considers how attempts to preserve landscape features and relationships that one community values may inflict lasting and substantial harm upon those that others might dependent for their material needs and cultural identities.

The concluding section, *Summary and Conclusions*, calls for decision makers to incorporate cultural relativism in management enterprises and not evaluate information and insights shared by stakeholders exclusively in terms of their own institutional and common sense understandings. It also asks for managers to integrate the ideas of topophilia and *querencia* to comprehend the affective bonds that stakeholder maintain with places within their landscapes. The narrative appeals to decision makers to consider that their decisions might privilege one community's quantitative and qualitative understandings of what defines authentic

landscape relationships over those of others. Lastly, it points out how participatory management, in which diverse stakeholders are active and respected participants in management processes, constitutes a celebration of public memory within the landscape.

Cognitive Foundations

Culture

Culture has been a central topic of discussion since anthropology's beginnings as a social science more than a century ago. It has been a unifying concept over much of the discipline's history. Nonetheless, its appropriateness increasingly has become a topic of debate since Alfred L. Kroeber and Clyde K. Kluckhohn (1952) noted that practitioners assign it a multiplicity of meanings (see also discussion by Williams 1983 [1976]:87-93). Over the past decade, critiques of the culture concept generally focus on the theme that *culture* inevitably "suggests boundedness, homogeneity, coherence, stability, and structure whereas social reality is characterized by variability, inconsistencies, conflict, change, and individual agency" (Brumann 1999:S1). Despite this academic controversy, the culture concept remains a useful tool in examinations of how people produce, store, and communication information about their understandings of—and interactions—with their environments efficiently.

To offer a general observation: life experiences and learned codes based on culture-like mechanisms help guide behaviors of higher vertebrates (Margalef 1968:97-99). People, however, interact with their environments in ways that differ qualitatively from all other species by virtue of their specific possession of culture. In fact, a diverse group of anthropologists views culture and its constituents as fundamental properties of human communities (e.g., Hall 1959, 1969; Rappaport 1979d:62; White 1949). In our day-to-day lives, socially constituted groups of people use culture to construct meanings that possess differential valuation for things and events they experience (Lakoff and Johnson 1980:3; Rappaport 1979a:158, 1979b; White 1987:277 [1962]; see also Barth 2002:1; Kirch 1980:112-114). Addressing the subject matter of the present study head on, Robert Z. Melnick adds, "Culture... is the result of the deliberate act of a rational human, set apart from and above the naked wilderness" (1996:28, citing Wilson 1991).

Culture also permits the efficient production, storage and conveyance of information beyond the memory of living generations to create the fabric of *culture history*. Cultural-

historical memories, in turn, stand as important aspects of the human environment (Flinn and Alexander 1982). They establish a conceptual framework for how humans perceive the past and judge the relative success or failure of their forebears' relationships with their environments over time. In this way, cultural-historical memories exert influence on how people define the scope and content of their present and future environmental interactions.[3]

James L. Boone (1994:7) recognizes that humans generate a world of cultural product over the course of their lives. Their descendants not only inherit but also inhabit—that is to say, imitate, modify and build upon—this cultural heritage as a conceptual landscape for their own conscious and unconscious purposes.

Two complementary definitions of culture provide needed context for understanding how human communities perceive and convey environmental information. The first definition is by E. B. Tylor, who conceptualized culture as "that complex whole which includes knowledge, belief, art, morals, law, custom, and any other capabilities and habits acquired by man as a member of society" (1871:1) at the time anthropology was emerging as a formal discipline. More than 80 years later, Leslie a. White delimited culture as "a class of things and events, dependent upon symboling, considered in an extrasomatic context" (1959:234). These definitions focus on contrasting aspects of culture: Tylor's work emphasizes the products of human behavior, while White's effort recognizes the cognitive underpinnings of peoples' actions. An underlying principle of patterned information transmission within communities unifies these disparate meanings, however. These information flow patterns not only are selective in what and how data are transmitted among living people and between successive generations to provide coherence and meaning (after Trigger 1991:557, citing Gellner 1982:116-117). They also sustain the validity and coherence of a community's conventional understandings of its world (after Redfield 1940, in Watson 1995:683).

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[3] Although cultural-historical memories might affect the structure and organization of subsequent human behavior, my intent is not to cast culture in a tyrannically determinist role. Following Brice G. Trigger, "the human ability to reason allows individuals to manipulate and modify culture to varying degrees" (1991:559) as they "realize their own changing needs and aspirations" (1991:560).

Stewart Peckham describes this class of information regulatory mechanisms as *traditions*, which generally relate to peoples' understandings of "how they became who they are" (1990:2). He identifies value, persistence, and continuity as fundamental characteristics of the traditions maintained by communities. Although traditions allow for persistence and continuity in the threads of constructed meanings, they are dynamic and subject to change over time given the latitude in their form and practice (after Anschuetz 1998:48–51; Peckham 1990:2–5). Armin R. Geertz concludes, "persistence and change are aspects of the same social phenomenon, namely, tradition" (1994:4). Because traditions are patterned and extend from the present into the past (and into the future for as long as a community maintains its cultural identity), they are cultural-historical constructs.

People share a comprehension of the cultural-historical constructs that define the content of the behavioral norms and traditions held by the communities of which they are members (see Whorf 1956a:213-214 [1940]). Shared comprehension of a community's cultural-historical experience *tends* to translate into common patterns of perception, attitude, and value, as well as behavior (Hall 1959; see also Tuan 1974:4).[4]

Perception

Yi-Fu Tuan defines perception as "both the response of the senses to external stimuli in purposeful activity in which certain phenomena are clearly registered while others recede in the shade or are blacked out" (1974:4). As such, it is an image resulting from a personal interpretation of environmental experience (Gantt 2004:4). Tuan adds that much of what people perceive as important is embedded in culture.

Julian Thomas maintains that people structure their interactions with the phenomena that they encounter "by swatting them into the understanding of the world which they have already developed: nothing is perceived without being perceived 'as' something" (1996:65-66). They fit their experiences into schema consisting of concepts (i.e., mental models of the world) and the

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[4] I emphasize the word *tends* because patterns of perception and comprehension are not replicated exactly among people. In conversation, the potential for imprecise information transmission and misinterpretation almost always exists.

relationships among concepts, based on their cultural knowledge (Kearney and Kaplan 1997; Matlin 2005; Romolini et al. 2012:10-11). Concepts represent "tangible (i.e., objects, events, and facts) and intangible (i.e., emotions, sensations, and meanings) aspects" (Romolini et al. 2012:11) of experiential reality. Perception is an image resulting from people's interpretation of the environment (Beaulieu and Schreyer 1984). The experience of this interaction is "meaning created through embodied perception" (Starks and Trinidad 2007:1373).

Value

Kluckhohn defines a value as a "conception, explicit or implicit, distinctive of an individual or characteristic of a group, of the desirable which influences the selection from available modes, means and ends of action" (1951:395). Consisting of abstract, inclusive constructs related to the norms of a culture, values represent the accessible beliefs and ideals generally shared among the members of a community to characterize the meaning (e.g., qualitative goodness) and desirability of the tangible and intangible phenomena with which they interact (see Thomas and Znaniecki 1918-1920).

Reduced to their basics, values are central to human thought, emotions, and behavior (Hills 2002). The motivation of behavior, Kluckhohn (1951) explains, is based on the combination of "needs-orientations," which are objective conditions, and "values-orientations," which correspond to decisions that people make with reference to cherished values. Cross-cultural study suggests that there are relatively few human values, such as honesty, courage, peace and wisdom, held among people worldwide (Hills 2002:3).[5]

Values may be either *intrinsic* or *instrumental* (after Proctor 1995). Intrinsic values are those that recognize worth independent of some utilitarian purpose. Instrumental values, in comparison, are those that assign worth based on the ability of some characteristic, or activity associated with a particular characteristic, to serve a useful purpose (Proctor 1995:281). While the intangible idea of *goodness* is a common characteristic of intrinsic values, instrumental values are often pragmatic assessments of particular conditions and commodities.

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[5] There are perhaps only36 values held by human beings (Thomas 2008:48, citing Rokeach 1979).

To operationalize the values concept promoted by her husband, Clyde, Florence R. Kluckhohn, in collaboration with Fred L. Strodtbeck, identified six generalized value orientations about how human communities act to resolve the problems they confront in everyday life (Kluckhohn and Strodtbeck 1961):

- *Relationships to nature.* People have a need or duty to control or master nature (domination), to submit to nature (subjugation), or to work together with nature to maintain harmony and balance (harmony).

- *Beliefs about human nature.* People are inherently good, evil, or a mixture of good and evil.

- *Relationships between people.* The greatest concern and responsibility is for one's self and immediate family (individualist), for one's own group that is defined in different ways (collateral), or for one's groups that are arranged in a rigid hierarchy (hierarchical).

- *Nature of human activity.* People should concentrate on living for the moment (being), striving for goals (achieving), or reflecting (thinking).

- *Conception of space.* The physical space we use is private, public, or a mixture of public and private.

- *Orientation to time.* People should make decisions with respect to traditions or events in the past, events in the present, or events in the future. [Thomas 2008:48, italics in original {see Table 1 for a tabular representation of these value orientations and the principle cultural variations that they embody}]

Table 1. Cultural Variations in Value Orientations
(adapted from Thomas 2008:Figure 3.1, after Kluckholn and Strodtbeck 1961).

Value Orientations	Cultural Variations		
Environment	Domination	Harmony	Subjugation
Time Orientation	Past	Present	Future
Nature of People	Good	Mixed	Evil
Activity Orientation	Being	Controlling	Doing
Responsibility	Individualistic	Group	Hierarchical
Conception of Space	Private	Mixed	Public

Attitude

Tuan observes, "*Attitude* is primarily a cultural stance, a position one takes vis-à-vis the world" (1974:4). Attitudes are subjective orientation of the members of a community toward the groups' values (Thomas and Znaniecki 1918). Because they are learned cultural expressions of values or beliefs, attitudes are the products of the application of a group's general values to particular perceptible objects or experienced circumstances (Theodorson and Theodorson 1969:19). Founded upon experience, attitudes are more stable, if not persistent, than perceptions. They possess "a certain firmness of interest and value" (Tuan 1974:4), a defining characteristic that Theodorson and Theodorson describe as being "emotionally toned" (1969:19).

Belief

Anthropologists have long conceded that the concept of belief is difficult to define (Fahey n.d.; Needham 1972; Rappaport 1999). The term *belief* suggests, at the least, "a mental state concerning, or arising out of, the relationship between the cognitive processes of individuals and representations presented to them as possible candidates for the status of true (Rappaport 1999:119). While beliefs may "concern a cognitive stance," they may also represent attitudes that are "rather emotional in character" (Linquist and Coleman 2008:3, in Fahey n.d.:2). Because belief is an inwardly-focused subjective state, volatile, and unpredictable (Rappaport 1999:396), "consistency in belief" even among the range statements made by particular individuals is "strikingly uncommon" (Favret-Saada 2012:46). Nonetheless, belief is a powerful tool, which people use

> to situate themselves, associate themselves and understand themselves in their respective cultural contexts. In doing so, people shape themselves in their world and shape their world around them. [Fahey n.d.:8]

Fahey explains further that belief

> is a word within which each individual can invest a strongly felt, often ineffable sentiment, and at the same time others can share that sentiment by investing their own experiences, meanings and emotions in the same word. [n.d.:7]

Common Sense

The elucidation of culture as an essential, albeit directly distorting, property of human groups is expressed best by Scott Atran (1990:1-4, also see 1990:275n. 1) in his evaluation of the scope and limits of knowledge derived through the body of beliefs constituting the *common sense* (a.k.a. vernacular knowledge [see Anschuetz 2007a:264-265]) maintained within every cultural community, as well as within many of its constituent social groups. Atran (1990:1-2) defines common sense as the processes and results of certain kinds of ordinary thinking, which. Common sense refers to—and cognitively structures the consideration of—perceivable facts. As universal propositions held by members of a society, the validity of common-sense beliefs is beyond question. George Edward Moore explains further that people do not simply *hold* the common-sense beliefs, they *believe* in them (1953:2-3, in Atran 1990:275n. 1).

Common-sense beliefs "have nothing especially to do with popular opinions, which may be unreasonable, unreliable and epistemologically worthless" (Atran 1990:275n.1). Indeed, common sense is "fallible as a means of insight into the scientific universe" (Atran 1990:3). For this reason, philosophers ever since Plato's time, as well as most scientists of our day and age, have viewed common sense with low regard (Atran 1990:1-3). Nonetheless, the topic of common sense is relevant to the present discussion:[6] peoples' intimate relationships with

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[6] While the validity of common sense may be rightly questioned at times, there exists a danger to underrating its importance in general practice. Atran (1990:3) maintains that there is much to

incidental properties of worldly phenomena, which are the bases of their common-sense beliefs, enable them to understand and accurately describe the essence of the things they experience. On one level, common sense "is just the way humans are constitutionally disposed to think of things" (Atran 1990:2). On another plane, the common-sense beliefs that the people of a community hold in common embodies their world view.

Fredrik Barth (2002) highlights a practical fallibility of common sense in his examination of the relationship between the knowledge and culturally-informed understandings held by the members of different communities. He observes,

> Knowledge provides people with materials for reflection and premises for action, whereas 'culture' too readily comes to embrace also those reflections in those actions. Furthermore, actions become knowledge to others only after the fact. Thus the concept of 'knowledge' situates its items in a particular and unequivocal way relative to events, actions, and social relationships. [Barth 2002:1]

That which constitutes knowledge, therefore, is based on perceived and evaluated experience. The transmission of knowledge from one group to another, therefore, not only provides a structural guide for an action, it encodes the original group's value-laden ideas, which motivate the activity.

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be lost in our collective understanding of the foundations of human knowledge if investigators fail to consider the relationship between common sense and science in their examinations of how people perceive, experience, and come to know the world in which they live. He attempts to establish a balance between common sense and science by approaching the subject from the perspective of cognition, which is the internal structure of ideas by which people conceptualize the world (Atran 1990:3).

World View

As defined by the anthropologist Clifford Geertz,

> *world view* is 'a people's picture of the way things, in sheer reality are, their concept of nature, of self, of society. It contains their most comprehensive ideas of order.' [1973:127 {1957}, italics added]

Tuan adds,

> World view is conceptualized experience. It is partly personal, largely social. It is an attitude or belief system; the word system implies that attitudes and beliefs are structured, however arbitrary the links may seem, from an impersonal (objective) standpoint. [Tuan 1974:4, emphasis and punctuation in the original]

People rely on their world view to frame how they know their world. Knowledge, according to Barth (2002), includes all of the ways of understanding that people use to construct their experiential reality. These understandings include attitudes, perceived facts and frameworks. With each knowledge tradition, which situates its base understandings in an explicit and clear way relative to events, actions and relationships, people use knowledge as the building blocks for reflecting upon the meanings of their experiences and grounding their behavior (Barth 2002:1).

Tuan offers a pair of additional insights on the concept of *world view* that warrants mention. "Natural environment and world view are closely related: world view... is necessarily constructed out of the salient elements of the people's social and physical setting" (1974:79). He adds, "just as means of livelihood, world view reflects the rhythms and constraints of the natural environment" (Tuan 1974:79).

Nature

Raymond Williams (1983) characterizes the term *nature* as possibly the most complex word in the English language. Lauert E. Savoy, a professor of Geology and Environmental Studies, confesses, "The meaning of the word 'nature,'... has always seemed elusive" in her

experience of writing about nature (in Deming and Savoy 2002:10). Given its many meanings, Kenneth R. Olwig observes that the multiplicity of nature's meanings renders the term "so duplicitous that it should never be taken at face value" (1995:380; see also Hull et al. 2003).

Williams suggests, "Any full history of the uses of *nature* would be a history of a large part of human thought" (1983:221, italics in original). Such a survey is clearly beyond the scope of the present discussion. A few key highlights, however, serve to provide needed context for later consideration of how the term *nature* continues to pose formidable challenges in management discourse given its multitude of meanings.

Of its three broad areas of meaning, the conceptualization of the term *nature* referring to "the material world itself, *taken as including or not including human beings*" (Williams 1983:291, italics added) occupies the center stage with regard to our present purpose. The other two meanings for the term *nature*—the essential quality and character of something, and the inherent force that directs the world or human beings (Williams 1983:219)— apply in perhaps less direct but no less substantive ways in discussions of environmental perception and management. At the heart of the issue is that divergent views of nature regarding conceptualizations, which *either* include *or* exclude people, underlie the ongoing debate over the appropriate use and management of wild areas (see below).

The notion that God gave humankind dominion over the earth and its fruits is a cornerstone of Judeo-Christian *Genesis* mythology. This idea implies that human beings are separable from—and are the potential masters of—nature (Merchant 1995; Slater 1995). When God Banished Adam and Eve from the perfection and harmony of the Garden of Eden after having succumbed to the Devil's temptations and eaten from the forbidden *Tree of Knowledge of Good and Evil*, human beings were forever thereafter obliged to work for their subsistence. With humanity's fall from grace, their dominion over nature correspondingly underwent transformation. God had intended for human beings to be the stewards of an orderly and harmonious paradise and "live as one with other divine creations" (Slater 1995:115). Instead, people were recast as outcasts sentenced to make their living from a wild, dark and disorderly wasteland (Merchant 1995:134). Carolyn Merchant explains further that in this system of belief, "Human labor would redeem the souls of men and women, while cultivation and domestication would redeem the earthly wilderness" (1995:134). In this sense, then, "the domination of nature

is not only a right but an obligation: nature is to be overridden, not preserved" (Evernden 1992, in Melnick 1996:33).

The *Book of Genesis*, therefore, encodes a fundamental paradox concerning the inherent relation between humanity and nature. People are simultaneously characterized "as integral parts of the natural world they seek to dominate and as forever alien from the rest of nature" (Slater 1995:116). To paraphrase Candice Slater's (1995) deliberation on Edenic narratives further, the incongruity in the understanding of the essential relationship between people and nature also provides the foundations for nostalgia[7] for paradise (through a return to nature) and the deep-seated fear of continuing loss (through the destruction of the nature that remains) that are principle foci in the contemporary debate over the meaning(s) of wilderness.

The challenge of having to make a living through one's own labor in a dark and disorderly world resulted in a pragmatic characterization of *nature* in qualitative terms as a harsh world. The European Enlightenment of the sixteenth and early seventeenth centuries drove the emergence of the meaning of *nature* in terms of the material world (Williams 1983; see also below for specific discussion of the Enlightenment's feminization of nature). Williams adds that the Enlightenment's

> emphasis on discoverable laws... led to a common identification of Nature with Reason: the object of observation with the mode of observation. This provided a basis for a significant variation, in which Nature was contrasted with what has been made of man, or what man has made himself. [1983:223]

As the Enlightenment yielded to the critique that it was mechanically deterministic, a new intellectual milieu, Romanticism, rose among European cognoscenti during the eighteenth and early nineteenth centuries. Founded on the theses that the authenticity, moral integrity and

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[7] See also Donald Worster (1983:15) and Donald W. Meinig (1979:35) for insightful thoughts about nostalgia for nature lost. Tuan (1977:195) makes the interesting comment that people have little reason for nostalgia when they deliberately change their environment and feel in control. When people perceive environmental changes are occurring too rapidly and the circumstances of these alterations are beyond their control, however, nostalgia for an idyllic past is strongly manifest.

passion possessed the greatest values, the Romantics began to deify nature: understandings of nature as "wisdom, spiritual comfort, and holiness" (Tuan 1974:107) were especially embraced by philosophers and poets of this era. These views found a ready home in the United States, which as the fledgling nation sought its identity, formed national ambitions and prepared for its future (Worster 1983:8).

The people of America at the end of the eighteenth century, Worster maintains, embraced the mythic beliefs. These allegorical views retain currency to this day in our nation's collective psyche, that the New World was "Eden Restored" and that "this perfect garden of nature is itself benevolent and good" (1983:10-13; see also Nash 2001:67). Thomas Jefferson and his cohorts in the late eighteenth century might have viewed as Eden surviving for them, if only in the endlessness of their material expectations (after Worster 1983:12). During the latter half of the nineteenth century, however, there were a number of authors who were to exert tremendous influence in further shaping people's evolving perceptions of nature. These writers, including Henry David Thoreau, Ralph Waldo Emerson, Walt Whitman, and John Muir, were adherents to an intellectual movement called Transcendentalism, which was an intellectual protest about the extant state of mid nineteenth-century culture and society. They collectively drew from George Perkins Marsh's (1854) publication, *Man and Nature,* to argue that humanity's use, exploitation, and commodification of nature had already destroyed much of what they loved most. They also shared a complex of attitudes about humanity, nature, and God to expound a core belief "that a correspondence or parallelism existed between the higher realm of spiritual truth [including nature] and the lower one of material objects" (Nash 2001:85). Transcendentalist doctrine placed divinity in the natural world and "nature was the proper source of religion" (Nash 2001:86).

Muir, whose passion was "wildness of raw nature" (Anderson 2005:109), played an instrumental role in promoting a preservationist ethic constructed from the definition of "nature as that which was free of human influence" (Anderson 2005:108; see also Nash 2001:122-140). To Muir, "*wild* nature provided the best 'conductor of divinity' because it was least associated with man's artificial constructs" (Nash 2001:125, italics in original). Moreover, Muir valued wild nature as "an environment in which the totality of creation existed in undisturbed harmony" (Nash 2001:128).

Under the influence of Muir and his like-minded compatriots, nineteenth-century America saw a shift in the meaning of nature. Wild nature was no longer merely a valuable resource, a means to economic ends, or an obstacle that had to be conquered for the advancement of civilization. The idea of a wild nature underlay the "conception of wilderness as an end in its own right and an endangered species in need of preservation" (Oelschlaeger 1991:4).

This alteration in meaning, however, has come with lasting consequences. At a base conceptual level, this change has resulted in erosion of the common understanding of the material sense of nature, such as Williams (1983) discusses. For example, Tuan (1974:132-133) remarks that the term *nature* has become conflated with the words *landscape* and *scenery*. Although he finds that these three words share a common core of meaning in modern use, he suggests, "Nature has lost the dimensions of height and depth; it gained the less austere qualities of charm in picturesqueness" (Tuan 1974:133). This conceptual de-emphasis of nature's material substance in favor of its intangible and appealing characteristics has further resulted in people starting to "view nature through the dual lens of 'dominance and affection,' with a need to both love and control it" (Melnick 1996:34, citing Tuan 1984, punctuation in original).

The need to love and control nature free of humanity's influences underlies a fundamental paradox. Tim Ingold (2000) explains that the contradiction from an anthropological perspective in his examination of why the concept of *environment* should not be confused with the idea of *nature*. Ingold states,

> [T]he distinction between environment and nature corresponds to the difference in perspective between seeing ourselves as beings *within* the world and as beings *without* it. Moreover we tend to think of nature as external not only to humanity,... but also to history, as though the natural world provided an enduring backdrop to the conduct of human affairs. [2000:20 italics in original]

The problem in conflating these two terms lies in the fact that "we already imagine ourselves to be somehow *beyond* the world, and therefore in a position to intervene in its processes" (Ingold 2000:20, citing Ingold 1992, italics in original). Clearly, then, how can human beings possibly be *beyond* the world when humanity necessarily exists *within* and is a *part* of the world?

Nonetheless, a profound outcome of the shift in *nature's* meaning has been that the idea "that man's intrusion in nature destroys its very meaning, which is its 'independence'" (Budiansky 1998:29, citing McKibben 1989:104) became firmly established in many people's thinking.[8]

William Cronon summarizes the cost of this perspective through the lens of environmental historian:

> This, then, is the central paradox: wilderness embodies a dualistic vision in which the human is entirely outside the natural. If we allow ourselves to believe that nature, to be true, must also be wild, then our very presence in nature represents its fall...To the extent that we celebrate wilderness as the measure with which we judge civilization, we reproduce the dualism that sets humanity and nature at opposite poles. We thereby leave ourselves little hope of discovering what an ethical, sustainable, *honorable* human place in nature might actually look like. [1995a:80-81, italics in original]

Cronon (1995a) and Jamaica Kincaid (1999) find that the challenge to recognize an appropriate place for humanity in nature commands attention because the prevailing modern version of the segregation of human beings and nature constructs a view of "nature that hides our worst secrets" (Norwood 2001:85). Other scholars point out that questions seeking an authentic relationship between humanity and nature have become a concern only since industrialization removed most people from the daily interactions from their environment for their subsistence (e.g., Harvey 1996). David Harvey even goes so far as to characterize the "artificial preservation and reconstruction" of nature as "the final victory of modernity" (1996:301-302).

Still, beyond the intellectual exercises examining what nature is and what is humanity's appropriate relationship with nature, people still depend on their environment for resources with

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[8] Several authors, including Gary Paul Nabhan and Stephen Trimbel (1994) and Richard Louve (2007, 2008, 2011), have written compellingly about the danger that this point of view may entail. Adrienne Cachelin and others (2011) have recently provided a basis for hope that Americans increasingly now view themselves as a part of nature. Daniel Dustin and others have even gone so far as venture the opinion that this "perspective has seeped deeply into the American psyche" (2012:213).

which to make their living. M. Kat Anderson draws the important conclusion these conceptual and material realities have "left us with a schizophrenic approach to the natural world: humans either conquer nature and destroy its integrity, or they visit it as an outsider, idealizing its beauty and largely leaving it alone" (2005:110). She maintains further that the commodification and idealization of nature are not necessary oppositions; instead, they represent the polar extremes of a continuum. Adopting the phrase *coin of alienation*, Anderson finds that commodification and idealization "treat nature as an abstraction—separate from humans and not understood, not real" (2005:110, based on her personal communication with restoration ecologist William Jordan, 2002).

Exploring the idea of *nature* in its contemporary intellectual context, William deBuys discerns, "The reality we must confront is that we inhabit a post-Edenic world" (2004). He adds,

> In this light, the greatest challenge may lie not in devising hypotheses and protocols but in revising the way we see ourselves in relation to the lands around us. It may be that we need a new meta-story to describe how we live with nature—a new myth. Nothing in our vast inherited body of guiding stories quite seems to fit our present situation. For some years, I have queried classicists and ethnographers in search of a myth more complicated than simply a story about controlling nature, on the one hand, or wounding it, on the other. It seems to me what we need is a myth about responsibility conceived as both a burden and a blessing... Perhaps we need to conceive a new Eden whose occupants, having bitten the apple, must forever tend the tree. And in this Eden, the tree would be forever growing and forever changing, and the Adam and Eve who tend it would understand that, while they can prune a little here and trim a little there, what they most need to do is to grow, change, and learn in harmony with the tree. [deBuys 2004]

deBuys' suggestion of a new Edenic myth in which Adam and Eve must forever serve the *Tree of Knowledge of Good and Evil* resonates. This resonance does not exist because this modern allegory is a radical retelling of a beloved traditional story, but because it possesses a certain familiarity. After all, among some indigenous peoples, including the Pueblo Indians of north-

central New Mexico (see below), "the proper role of humankind is to serve a dominant nature" (Nelson 1983:240, in Ingold 2000:68).[9]

Nature-as-Women, -Home, -Household, and -Nurture

An additional dimension of the nature concept warrants mention. In vernacular and academic domains alike, ideas of *nature* possess deeply-rooted (and often implicit) associations with the interrelated ideas of women, home, and household. These concepts, in turn, possess indispensable references to nurture. Women, home, household, and nurture occupy such elemental positions in how people construct their understandings of what nature is and assign meaning and value to its importance. For this reason, it is remarkable that their recognition has not occupied a more prominent position in scholarly treatises examining the cognitive foundations of nature. This complex of ideas encodes all three aspects of nature—quality and character, directing force, and material world—distilled by Williams (1983).

The etymology of the word *nature* is instructive. The English term derives from the Latin word *natura*, which means *birth, constitution, character and course of things* (Louve 2008:8). *Natura* is also is the past participle of *nasci*, meaning *to be born* (Williams 1983:219). Given its essential reference to birth, the linkage of the idea nature with women within the English language is readily explicable.

The association of women with nature long predates the Romans. This conceptualization is seen in the ancient Greek idea of *Gaia*, the primordial female personification of Earth and mother of many of the Grecian deities. The archaeological recovery of a series of so-called "earth mother" figurines, such as the renowned Woman of Willendorf (24,000-20,000 BCE

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[9] Anderson provides an insightful illustration of this point view. While working with elders from some of California's Native American communities in her study of traditional resource management, she experienced, initially with dismay, that a fundamental principle that she had learned to embrace in her childhood—"that one should respect nature by leaving it alone" (2005:xvi)—was being open to challenge. The elders showed her "that we learn respect through the demands put on us by the great responsibility of using a plant or an animal" (Anderson 2005:xvi). The native people with whom she interacted viewed themselves as users, protectors, and stewards of the natural world.

[Before the Common Era]) (Wittcombe 2003), suggests that the woman-earth-mother association extends back to at least to the Upper Paleolithic period of human history.

The connection between nature and woman-as-mother was made explicit in European thought during the Middle Ages and into the Renaissance of the Early Modern period. Even though orthodox Christian belief defined God as primary, there was a persistent tendency in vernacular use to view nature, not simply as the personification of some an amorphous but still-all powerful creative and shaping force, but as a literal goddess or monarch, a universal directing power (Williams 1983:221). The common characterization of *Mother Nature* was as a living, nurturing being. Following the example of Francis Bacon (1561-1626) at the beginning of the Enlightenment in Europe, members of the literati attempted to strip Mother Nature of her life- and care-giving force to a leave a reduced a feminine nature for subjugation by men. Within this intellectual milieu, the work by Bacon and his compatriots focused on the manipulation of organic life and other matter in the attempt "to recreate the natural environment through applied technology" (Merchant 1980:182). [10] In this way, men tried to assume control over "reproduction for the sake of production" (Merchant 1980:183) in their effort to regain dominion over nature lost as a consequence of humanity's *Edenic Fall from Grace*.

The Romantics' idolization of wild nature instilled new vigor into ideas of women, home, and household that had fallen by the wayside. As an enthusiastic practitioner of Romanticist ideals, Muir celebrated his going to the mountains or into the woods with "going home" (e.g., Muir 1901:3; Wolfe 1938:315), where in nature—and only in nature—he could be reborn. Muir spoke of the love for nature as "an ancient mother-love showing itself whether recognized or no" (1901:98). He described the necessity of nature in terms of nurture: "Everybody needs beauty as well as bread, places to play in and pray in, where nature may heal and give strength to body and soul alike" (Muir 1912:256). By sharing his "passionate ecstatic pleasure" (in Cohen 1984:19) of his experiences in the wilds, Muir has inspired his readers to similarly venture forth into nature.

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[10] Bacon wrote that nature "is either free,...or driven out of her ordinary course by the perverseness, insolence and forwardness of matter and violence of impediments...or she is put in constraint, molded and made as it were by art and the hand of man; as in things artificial...nature takes orders from man and works under his authority" (in Merchant 2001:278).

Muir was a champion in instilling an understanding of the importance of wild country among America's public (Nash 2001:122) as a place for renewal (figuratively, a place for their being reborn). This conceptualization of nature-as-mother remains strong a century later in the popular mind. Speaking of "Mother Nature," Rabbi Marc Gellman remarks, "[N]ature is nurture, and nurture is traditionally seen as a feminine trait because women give birth and we relate them with sustaining life in both the animal and human realms" (2013).

Biologist Rachel Carson (1962, 1965, among others), in comparison, played a key role in reawakening an awareness of traditional metaphorical connections between women and nature within academic circles that had been obscured by the prevalence of the domination-of-the-female nature metaphor since the Enlightenment (Merchant 1981).[11] Vera L. Norwood explains, "The strength of these connections rests on the image of earth as our "home" (1987:741). She observes that the construction of the nature-as-home metaphor, in turn, leads to recognition of embedded concepts of interrelatedness, equivalent value among all parts, and sense of community:

> 'Home' in this context means that there is a family feeling for the physical and biophysical landscape; it evokes the image of nature as our 'mother,' advocates an identification with other creatures, and promotes a unification of self and nature-that sense of being organically (as if by blood) related to the natural world-all of which leads to a reverence and respect for all the materials of one's home. [Norwood 1987:744]

But nature requires waste, impurity, accommodation, and inefficiency to thrive. The "landscape's resistance to life" (Norwood 1987:753) represents the ecological concept against which the metaphors of orderly and homes and households are tested.

Carson's extended characterization of nature as a mother creating a home for her children (Norwood 1987:744) also allows comprehension that the concept of *home* embodies ideas of a

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[11] Norwood endorses the view forwarded by natural historian Carolyn Merchant that the reawakening of the "connections between women and nature have informed both the environmental movements and the feminist movements of this century" (1987:741).

household existing primarily for production, consumption, cooperation, and management (Norwood 1987:747). Norwood, however, offers a warning about a danger that threatens points of view informed by the nature-as-home and nature-as-household metaphors: "Whether we define nature as a loved home or as an economic household is moot; either metaphor leads to a comfortable and misleading sense of familiarity" (1987:757). Cronon supplements, "Calling a place home inevitably means that we will *use* the nature we find in it, for there can be no escape from manipulating and working and even killing some parts of nature to make our home" (1995a:89, italics in original). Humanity's manipulations, in turn, can affect "the whole chain of life and death. From this perspective 'home' becomes a place of nightmares" (Norwood 1987:754).

Complementarities, Not Oppositions

The nature-culture dialectic is not exceptional; rather, it is a fundamental aspect of human nature itself. Tuan (1974) shows that the human mind appears to be disposed to organize phenomena into opposing pairs. He maintains, "This tendency may reflect the structure of the human mind, but the emotional force of some bipolar antinomies suggests that the total human being, at all levels of experience, is involved" (1974:16).

In the present case study, in which participants' perceptions, attitudes and values concerning what constitutes the appropriate scope and content of land and resource management in the Valles Caldera and the surrounding Jemez Mountains occupy a central position, the nature-culture dialectic, if not addressed and contextualized, potentially poses a formidable impediment to dialogue. Melnick explains,

> The idea that these two constructs [nature and culture] are in opposition is essentially a violent concept, for it established an adversarial relationship between those who first consider natural systems and those who first consider cultural systems. [1996:30]

Yet, as my prior discussion has already examined and my following remarks will continue to elaborate upon, ideas of nature exist "as part of the continuum that runs from wilderness to metropolitan settings" (Harmon 2010:257-258; see also Tuan 1974:112).

Although the construction of cognitive oppositions appears to be a universal human trait, Tuan (1974:17) also documents how there exists a corollary characteristic among people to resolve these seemingly irreconcilable "contradictions of life" through mediating narration. Melnick aptly distills the challenge that remains: "While we have long familiarity with a dualistic model, we are less comfortable in the middle" (1996:28).

A recent statement by Dustin and associates exemplifies calls to reconcile the oppositional tendencies of ideas about nature and culture through the adoption of an explicit ecological approach:

> This framework for managing and protecting wilderness is an outgrowth of a dramatically new cultural perception of nature. We now realize that we can no longer conceptualize wild nature as a place that exists beyond a Forest Service or National Park Service sign. We now live with the awareness that we are ecological beings. We have removed the duality from our teaching and thinking. Wilderness is no longer 'othered,' 'out there,' 'strange,' and 'disconnected' from us. [2012:213]

Because ecology writ large is defined as "a branch of science concerned with the interrelationship of organisms and their environments" (Merriam-Webster On-line Dictionary, http://www.merriam-webster.com/dictionary/ecology, accessed on-line: 03/05/2013), an ecological perspective indeed occupies a place in the construction of a narrative to mediate contradictory views about nature and culture. My intent is not to be dismissive of an ecological approach, however, as a social scientist, I have concerns that ecology is often narrowly conceptualized and practiced exclusively from a natural science perspective even though the definition, interpretation, and valuation of nature (and all things considered natural) are cultural constructions.

Human beings are more than biological organisms who are part of nature; we are also prescient, cultural beings. Ecology devoid of the cultural, therefore, is no panacea for resolving the fundamental problem of nature-culture divisiveness. The potential for the nature-cultural dialectic to continue to impede understanding about matters related to discourse about what constitutes informed and appropriate management of the Valles Caldera and the neighboring

Jemez Mountains persists. Dustin and associates might find that "[w]ilderness is no longer 'othered,' 'out there,' 'strange,' and 'disconnected'" (2012:213) having factored human beings into management frameworks based on an ecological approach. Without broadening the narrative to include the cultural side of human beings, however, some ideas of culture, nature and wilderness, held by people of diverse traditional and historic cultural communities who comprehend and assign valuation to their worlds outside the domain of ecological science likely will continue to appear "othered," "out there," "strange," and "disconnected" to managers.

I suggest that a more appropriate narrative for mediating the nature-culture dialectic is one that formally includes perspectives offered by cultural ecology and spiritual ecology. As defined by anthropologist Julian Steward (1955) in his classic study, *Theory of Culture Change: The Methodology of Multilinear Evolution*, cultural ecology is the study of human interaction with the ecosystems of which they are a part to examine how nature influences and is influenced by human social organization and culture. Within this construct, Steward, in concept and practice, kept the vagaries of an environment and the inner workings of a cultural community that occupies the environment separate. Spiritual ecology unites ecology and environmentalism with the awareness of the sacred. According to Gregory Cajete (1994), an educator from the Pueblo of Santa Clara and one of the participants in the present study (see Chapter 4), spiritual ecology refers to traditions that guide how people interact with the totality of their environment: the land, the water, the plants and animals, and one another. As such, spiritual ecology helps explicate traditional concepts of stewardship privilege and obligation.

Cognitive Frameworks That Structure and Motivate Opinions

Landscape

The term *landscape* is—just as the terms *culture* and *nature* are—characterized by a wide degree of variability in meaning because of wide range of meanings that people pack into the concept. As a language tool of many meanings and uses, *landscape* has an extremely high potential for abuse, not because the term itself is "slippery." Rather, people who use *landscape* tend to "slip" the concept among contradictory contexts that obscure its meaningfulness (Anschuetz 2007b:253). Given the focal position that the concept occupies in this study, I need to exercise care in defining what I mean by *landscape*.

A simple yet elegant definition used in the social sciences and humanities for the term *landscape* refers to the interaction of nature and culture (after Zube 1994:1; see also Ingold 1993:152; Tuan 1977:passim; Tuan, in Thompson 1995:xi; see also below). Carl O. Sauer, a geographer renown for work in the early twentieth century, offers a more comprehensive definition. Given its recognition of the organization of people's interactions with their environments as a uniquely evolving cultural-historical process, his definition remains relevant today:

> The cultural landscape is fashioned from a natural landscape by a culture group. Culture is the agent, the natural area is the medium, the cultural landscape is the result. Under the influence of a given culture, itself changing through time, the landscape undergoes development, passing through phases, and probably reaching ultimately the end of its cycle of development. With the introduction of a different—that is, alien-culture, a rejuvenation of the cultural landscape sets in, or a new landscape is superimposed on the remnants of an older one. [Sauer 1925:46]

Sauer stressed human agency "as a force in shaping the visible features of delimited regions on the Earth's surface" (Cosgrove 1998:115) and culture specifically as "the impress of the works of man upon the area" (Sauer 1925:38). He cites three factors as basic to the study of landscape: "the physical environment, the character [i.e., culture] of the people, and time" (in Norton 1989:37).

The landscape perspective rests on a series of five foundational propositions. First and foremost, landscapes are not synonymous with natural environments. Landscapes are synthetic (Jackson 1984:156), with cultural systems structuring and organizing peoples' interactions with their natural environments (Deetz 1990; see also Ingold 1993:152; Tuan 1977, passim; Thompson 1995:xi; Zube 1994:1). As Denis E. Cosgrove notes, "landscape denotes the external world mediated through subjective human experience" (1998:13).

Second, landscapes are worlds of cultural product (Boone 1994:7 [see above]; see also Norton 1989; Thompson 1995; Wagner 1995:5; see also Anschuetz 2007a) representing more than a collection of static "artifactual properties" (Cook 1996:51). Through their daily activities,

beliefs, and values, communities transform physical spaces into meaningful places. P. S. C. Taçon comments, "Experience, history, value systems, relationships, circumstance, and individual choices all play a part in how landscapes are... described" (1999:34). Accordingly, a "landscape is not merely the world we see, it is a construction, a composition of that world" (Cosgrove 1998:13). Enrique Salmon (2002:72), a Rarámuri ethnobotanist, explains that people create relationships with places within their landscapes through their cultural histories, stories, and songs."

"Place," in Tuan's view, "is an organized world of meaning" (1977:179). Places, in turn, are "symbolic environments created by human acts of conferring meaning to nature..., of giving the environment definition and form from a particular angle of vision and through a special filter of values and beliefs" (Greider and Garkovich 1994:1, cited in Turbeville 2006:7). As a system for manipulating meaningful symbols, the landscape helps delineate customary patterned relationships among varied information. In turn, groups use the cultural meanings that they have assigned to particular places within their landscapes to help define and reinforce their identities as a community of people (e.g., Friedman 1994; Lowenthal 1985:197-200; Parker and King 1998; Parker 1993; Turbeville 2006:8, after Williams and Patterson 1999:147). In circumstances wherein a community of people understands itself to be part of a natural community and an ecological process, members might express their relationships to the natural world in ways "that only can be called 'ensoulment'" (Cajete 1994:83). According to Cajete, *ensoulment* is the projection of the human sense of soul on particular entities, phenomena, and places in their natural environments.

Third, landscapes are not the same as "built environments," which refer to designed physical constructions (i.e., landscape architecture) (after Domosh 1995:48–49; Foote 1995:294–295). Landscapes represent "a way in which... people have signified themselves and their world through their... relationship with nature, and through which they have underlined and communicated their own social role and that of others with respect to external nature" (Cosgrove 1998:15). These efforts to evoke a sense of place and of the past are deliberate and conscious (Tuan 1977:198). Importantly, people of different cultural communities often perceive and interpret their landscapes in contrasting ways (Cowley 1991, 1994; Gobster et al. 2007:968). As such, landscapes with high value to one community might appear to represent little used tracts to

members of another community. Because landscapes are components of cultural systems (Melnick 1996:31-32; Mitchell and Page 1993; Page et al. 1998; Sauer 1925), they are the representations of cultural-historical processes (Hirsch 1995; *contra* Cosgrove 1984:32). Robert E. Cook (1996:46) introduces the concept of contingency when he remarks that the specific dynamics of a landscape are conditional on its history (see also below).

Fourth, landscapes are the arena for all of a community's activities. Landscapes not only are constructs of human populations, they are the settings in which people live and sustain themselves. A landscape's domain involves patterning in both within-place and between-place contexts (Binford 1982:5; Deetz 1990:2; see also Hubert 1994). Observable patterns of material traces and empty spaces come from interactions between culturally organized dimensions and nonculturally organized resources and life-space distributions (Binford 1983:380). With landscapes organizing perception and action, economy, society and ideation are not only interconnected, they are interdependent (Anschuetz 1998; Anschuetz and Scheick 1998).

Fifth, landscapes are dynamic constructions (Cook 1996:43; Melnick 1996:39; see also Gobster et al. 2007:963; Ingold 2000:20), with each community and each generation imposing its own cognitive map on an anthropogenic world of interconnected morphology, arrangement, and coherent meaning (Anschuetz and Scheick 1998:6; Basso 1996:43; Grieder and Garkovich 1994:1; Jackson 1984:156; see also Hoskins 1955; Parcero Oubiña et al. 1998:174). Because landscapes embody fundamental organizing principles for the form and structure of peoples' activities, they serve both as a material construct that communicates information and as a kind of historical text (Hugill and Foote 1995:20).

People imbue four classes of meanings onto their landscapes (Williams and Patterson 1999:146-147). Inherent (i.e., aesthetic) meanings are apparently innate reactions to landscape properties associated with direct feelings of pleasantness and interest. Instrumental (i.e., goal-directed) meanings are associated with the natural environment's capacity to fulfill a person's behavioral or economic needs. Cultural (i.e., symbolic) meanings are derived from the culturally-, historically-, and geographically-informed contexts of everyday life. Individual (i.e., expressive) meanings are associated with an individual's sense of identity, which has evolved with the intimacy of their experiences with a particular place.

Interaction of Nature and Culture

As I report earlier, Ervin H. Zube (1994:1) defines landscapes, simply and elegantly, as the interaction of nature and culture. My following observations of the principles upon which the landscape approach rests repeatedly referenced the importance of the relationships that people maintain with their natural world. The purpose of these comments is to build further upon the character of these relationships to help the reader comprehend that nature and culture do more than interact within landscapes, they are interdependent.

The Laguna Pueblo author Leslie Marmon Silko recognizes the relationship between people and the natural world tangible (physical) and intangible (conceptual) bases:

> So long as the human consciousness remains within the hills, canyons, cliffs, and the plants, clouds, and sky, the term *landscape*, as it has entered the English language, is misleading. 'A portion of territory the eye can comprehend in a single view' does not correctly describe the relationship between the human being and his or her surroundings. This assumes the viewer is somehow *outside* or *separate* from the territory he or she surveys. Viewers are as much a part of the landscape as the boulders they stand on. [1986:84-85, italics added]

A prominent geographer, Phillip L. Wagner, has gone as far as to suggest "landscape is most at home in the cultural context" (1995:5). In this sense, *landscape* is intelligible only as human habitat given that culture, as I discuss above (after Hall 1959, 1969; Kirch 1980; Rappaport 1979a; Trigger 1991, Tylor 1871; White 1949), is a uniquely human cognitive and behavioral system for producing, storing, and transmitting information over time. Communities transform their physical surroundings into meaningful places on particular patterns of morphology and arrangement through the daily activities, beliefs, and values of their people. Moreover, communities reshape the natural settings of their geographical spaces to legitimize the meanings they bestow upon the landscape through their physical modification of the environment, the intimacies of their experiences, and their sharing of memories. The ways in which people perceive the land and its resources through their cultural traditions help structure how they interact with their landscapes and define their associations with their heritage

resources. In acknowledgement of these principles, the NPS recognizes that landscapes: (1) represent the interaction of active cultural and historical processes; and (2) are not simply an assemblage of quantifiable material resources or even normative behavioral patterns (e.g., see Mitchell and Page 1993:49; Page et al. 1998:7; see also Levine and Merlan 1993:56).

An explicit linkage of nature with culture is uncommon in the vernacular constructions of the world held by most Anglo-Americans today (Jackson 1984:5). "Understandings of nature and culture often occupy opposing ends of a spectrum (Melnick 1996:28, citing Appleton 1975; Blouet and Lawson 1975; Sauer 1925). Meinig notes that ideals based in eighteenth-century Romanticism (see above) continue to hold popular appeal among many urban people, as manifest in their superficial attempts "to remove man from the scene, to restore nature to her pristine condition, to reclothe the hills with the primeval forest, clear off the settlements, heal the wound and mend the natural fabric—to imagine what the area is *really* like" (1979:34]). Associated with nature, "[t]this primeval landscape is often viewed as the embodiment of good and righteous action" (Melnick 1996:28, citing Nevius 1976). Reduced to their base elements in this way, the dimensions of nature and culture within landscapes are often treated, simplistically, as "two sides of the same coin" (Melnick 1992:39).

Nonetheless, if one digs more deeply into the derivation and content of long-lived cultural traditions, then they will find that the linkage of nature and culture actually follows an ancient Indo-European tradition of referring to places on the physical landscape as possessing an integral human element, a space defined by people through their interactions with their environment (Jackson 1984:5–8). Importantly, traditional land-based communities in the United States, including among Native American and non–Native American cultural groups alike, characteristically do not distinguish between nature and culture in their understandings of landscape. Rather, they highlight the idea of a fundamental web of relationship between people and the world in which they live (e.g., see Cajete 1993–1994, 1994, 1999).

Commodities and Processes

In the vernacular Anglo-American mindset, landscapes characteristically are seen as an assemblage of resources. The landscape resource types listed by Cook (1996) exemplify this approach. According to Cook, landscapes comprise four principal types of resources:

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- The rocks and soil of the substrate which form topography;
- Human artifacts representing the surviving relics of the landscape's history;
- "The heterogeneous array of living plants and animals, including humans, that fulfill a transitory existence in the landscape, often in complex biological association with each other" (1996:42); and
- "The deliberate configuration or alteration of the first three elements into what can be called design, with its very formal characteristics or its less formal, so-called vernacular qualities" (1996:42).

Anthropocentric values (i.e., values that emphasize benefits for human beings [after Hendee and Stankey 1973]) may include intangible (e.g., aesthetic or spiritual) aspects of nature within the landscape. In usual practice, however, observers place emphasis on nature's material resources that directly benefit people by contributing to their economy and/or physical comfort (after Hull et al. 2003:3-4). One of the most basic effects of a narrowly conceptualized materialist approach to nature, however, is the commodification of resources within a landscape, with each resource type inventoried and assigned value independently of all others (after Watson 2000:59). Melnick bemoans what he calls the "illogical categorization" of land and resource types into isolated and rigidly conceptualized pigeon holes, such as "natural, historic, wilderness, and recreation" (1996:32). He maintains that this fragmented approach hinders an ability to apply this resource taxonomy to a holistic world view that integrates natural and cultural resources.

Recognition that landscapes are the product of the interaction between cultural communities and their natural environments, however, implicates the existence of historical-ecological processes within human habitats (after Crumley 1994; see also Zube 1994:1). In a growing number of scientific enterprises, the landscape concept is being applied to build a fuller understanding of the processual relationship between natural and cultural systems over time. As I discuss below, the idea of historical process in these landscape constructions is key. Barbara Bender, an anthropologist, notes that in contemporary Western discourse, all landscape definitions "incorporate the notion of' 'time passing'" (2002:S103). The passage of time in landscapes is not uniform, however. The interactions between people and their natural

environments may be implied in a linear fashion, or it may be thought of as cyclical or repetitive (e.g., Ingold 2000; Jackson 1994; Tuan 1974, 1977).

The perception of nature-culture interactions within academic environmental studies has undergone its own transformation in recent decades. For example, Ursula Heise (2006) maintains that nature not only tended to be envisioned as a victim of "modernization" in earlier scholarship, it was cast as its opposite and alternative. Today, "nature is now more often viewed as inextricably entwined with modernity—both as a concept and in the material shape in which we experience it today" (Heise 2006:508). Citing Harvey (1996), she observes additionally that concerns about the need for people to develop a more authentic relationship with nature are themselves a product of modernization:

> [T]he problem of authenticity is itself peculiarly modern. Only as modern industrialization separates us from the process of production and we encounter the environment as a finished commodity does it emerge... The final victory of modernity... is not the disappearance of the non-modern world, but its artificial preservation and reconstruction... The search for an authentic sense of community and of an authentic relation to nature... is the cutting edge of exactly such a sensibility. [Harvey 1996:301-302, in Heise 2006:508]

Center and Periphery

Tuan suggests that the ideas of *center* and its essential counterpart, *periphery*, are possibly universal in human constructions of the spatial organization of their landscapes. "People everywhere tend to structure space—geographical and cosmological—with themselves at the center and with concentric zones "more or less well-defined" of decreasing value beyond" (Tuan 1974:27). Within the framework imposed by this general principle, differences in spatial organization are attributable to the multitude of ways in which people classify the features of their landscapes, including its tangible and intangible elements, people and their activities, and perceived patterns of environmental relationship (after Tuan 1984:28).

Cajete (1994, 1999) discusses the importance of rightful orientation among traditional Pueblo and other Native American community members in the northern Southwest. "Orientation," Cajete asserts, "is more than physical context and placement... It is about how the

human spirit understands itself" (1994:49). Moreover, among traditional Native American and Hispanic community members across the northern Southwest, the land is inseparable from the people's very existence and identity, and the idea of center has inseparably intertwined physical geographical and spiritual referents (Anschuetz 2007:133).

In the case of traditional Native American belief, community traditions transmit ideas regarding the people's "*rightful orientation* to the natural world" (Cajete 1994:37, italics in original; see also Naranjo and Swentzell 1989; Ortiz 1969; Swentzell 1988) through reference to seven cardinal directions: East, West, North, South, Zenith, Nadir, and Center. Given Tuan's (1974) findings that people throughout the world characteristically organize space after placing themselves and/or their community at the center of their landscapes, Cajete's observation that people construct mental orders, which seem "less to control the environment than to control the world within" (Johnson 1995:200), is broadly applicable. John Brinkerhoff Jackson explains:

> The political landscape is indifferent to the topography and culture of the territories it takes over, but the inhabited landscape sees itself as the center of the world, as oasis of order in the surrounding chaos, inhabited by the People. Insularity is what gives it character; size, wealth, beauty have nothing to do with it; it is a law unto itself.[12] [1984:54]

Ideas of center and centeredness, of course, focus attention inward. Understandings of periphery not only provide a much needed counterbalance to avoid narrow-minded thinking and development of constricted environmental relationships, they are crucial for providing the context for comprehending the meaning of center itself. That is, the center cannot exist in isolation.

In the example concerning how southwestern Native American communities render their landscapes knowable, it is worthwhile noting that Pueblo understandings of their landscapes are comparable to their comprehensions of the cosmos as a whole because they incorporate

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[12] Jackson (1984:54) makes clear that his use of the term *law* actually refers to a traditional set of habits and customs that have been developed over the centuries in the adaption of a people to a place.

subjective realities in their natural and supernatural realms alike. Tuan explains that the periphery, as the borderland between the objective and the subjective realms of the Pueblo world, "is the timeless past, a country told about in myths" (1977:121). Moreover, Pueblo authors observe that their kin "believe that past and future come together in the present—or in the center" (Naranjo and Swentzell 1989:257).

Conceptual frameworks that meld the objective and subjective realms of the world into a timeless past are also manifest in Anglo-American community landscape constructions of center and periphery within a world filled with ambivalence. In his study, *Topophilia*, Tuan (1974) reflects on how the eighteenth-century Romantic deification of nature was soon followed by the widespread destruction of wild nature during the Industrial Revolution. With Adam and Eve's banishment from the Garden of Eden being the original loss of nature (as paradise) and the Industrial Revolution resulting in the loss of great expanses of geographic space that fulfilled the Romantic's vision of nature (as paradise restored), "time-honored meanings of 'core' and 'periphery,' 'center' and 'margin,' [were] reversed" (Tuan 1974:248). To Tuan, the city, which had "symbolized, order, freedom, and glory," gave way to its dark side of "worldliness, the corruption of natural virtues, and oppression" (1974:248). In accord with the inherent complementarity of their relationship, wild nature, which had "signified chaos, the haunt of demons" since humanity's fall from grace, once again came to stand for "order" (Tuan 1974:248). *Nature*, at the distant geographic periphery of city centers and imbued with Edenic qualities, once again represents the center of orderly process and grace, while "[a]s a state the of mind, true wilderness exists only in the great sprawling cities" (Tuan 1974:112, citing his Figure 10d on page 144) at the heart of so-called civilization.

Landscape as Home

With regard to the earlier recognition that ideas of home are embedded within understandings of nature, it comes as no surprise that the concept of landscapes may also imbued with associations of home. Constructions of landscape-as-home, however, are qualitatively different. Views of nature-as-home carry general connotations of the place of primeval origins (e.g., ideas of Garden of Eden and Paradise Lost), physical subsistence and metaphysical sustenance (e.g., ideas of mother, nurturing and household), and the promise of renewal, if not rebirth (e.g., going home and Paradise Regained) (see above). Landscape-as-home

constructions, while sharing the conceptual foundations of nature-as-home in a general sense, are specific to place and traditions of place making. Examination of two interrelated ideas—topophilia and *querencia*, which arose in formal academic and vernacular Hispanic traditions, respectively—helps make these cognitive underpinnings clear.

Topophilia

Tuan defines topophilia as "the affective bond between people and place or setting" (Tuan 1974:4). He adds that while topophilia is diffuse as a concept, it is as vivid and concrete as personal experience.

The affective ties that people maintain with their material environment might differ in intensity, subtlety, and manner of expression (Tuan 1974:93). Culturally informed characteristics, such as environmental perceptions, attitudes, and values provide the contexts of particular topophilic expressions (after Ogunseitan 2005:143). Tuan explains further that a topophilic response may be primarily aesthetic, tactile, or deeply ingrained, emotionally charged feelings "that one has toward a place because it is home, the locus of memories, and the means of gaining a livelihood" (1974:93).

Places within the landscape are constructed within landscapes when people attach meanings to physical spaces within their environment (Williams et al. 1992). Highly meaningful attachments are seldom acquired in passing (Tuan 1977:184), however. For example, the embrace of a landscape as a home is not a facetious enterprise; the construction of this bond something that can neither be created overnight nor without intimate historical experience. Tuan illuminates,

> A homeland has its landmarks, which may be features of high visibility and public significance, such as monuments, shrines, a hallowed battlefield war cemetery. These visible signs serve to enhance a people's sense of identity; they encourage awareness of and loyalty to place...Attachment of a deep though subconscious sort may come simply with familiarity and ease, with the assurance of nurture and security, with the memory of sounds and smells, of communal activities and homely pleasures accumulated over time. [1977:159]

Two dimensions of place attachment are definable: (1) functional; and (2) emotional/symbolic (Turbeville 2006:14-15, citing Williams and Roggenbuck 1989; Williams et al. 1995; Williams 2000; Williams and Vaske 2003). Eric Paul Turbeville explains that functional attachments are characterized by the characteristic of place dependence. They refer to the importance of a place in providing features and conditions that support specific goals or desired activities. Emotional/symbolic attachments, in comparison, are characterized by the characteristic of place identity. They denote psychological investments (Turbeville 2006:15, citing Williams and Vaske 2003).

Topophilia does not necessarily represent one of the most strongly expressed of human sentiments. When it is articulated in conspicuous and compelling custom, however, Tuan makes clear that the place in question is a symbol of emotionally charged events. To this observation, I will add that topophilia might also be expressed manifestly when a place carries associations of highly revered traditional relationship, such as stewardship obligations for one's homeland.

Querencia

The substance and meaningfulness of topophilia is aptly illustrated by the concept of *querencia*, an idea discussed by several of the participants in the present study (see Chapter 14). According to the *Merriam-Webster On-line Dictionary*, this Spanish language term means "fondness," "haunt of an animal," and "favorite spot," and it derives from *querer*, meaning to "want," "like," and "love" (http://www.merriam-webster.com/dictionary/quernecia, accessed on-line: 03/05/2013).

Estevan Arellano, a journalist, writer, and researcher knowledgeable of Hispanic land, water, and agricultural traditions in northern New Mexico, notes that authoritative Spanish language texts, including Covarrubias' *Tesoro de la Lengua Castellana o Española* (1611) and *Diccionario de la Lengua Española de real Academia Española*, whose 23 published editions span the time from 1780 to 2005, offer definitions that "totally miss the mark" (2007:9). They emphasize the ideas of "the place where the animal spends his time, either where he goes to eat or sleep" and "the inclination or tendency of man and certain animals to return to the site where they were raised or have a tendency of returning to" (Arellano 2007:9). Instead, as used among

members of some traditional Hispanic communities in northern New Mexico,[13] "*Querencia* is a place where one feels safe, a place from which one's strength of character is drawn, where one feels at home" (Arellano 2007:9-10). Arellano elaborates,

> For our purpose it also means 'affection,' 'longing,' or 'favorite place.' But it also implies a sense of responsibility to that place, a particular kind of ethic toward the land. It is the place that people say '*conoce como sus manos*,' he knows like his hands.
>
> It is that which gives us a sense of place, that which anchors us to the land, that which makes us a unique people, for it implies a deeply rooted knowledge of place, and that reason we respect our place, for it is our home and we don't want to violate our home in any way. [2007:9]

Later in his essay, Arellano acknowledges that *querencia* does not always imply a place within a physical landscape; "it can also be a certain time of the day, a certain type of weather, music, art, literature, food, taste, or smell" (2007:10). Arellano stresses that *querencia* refers to: where a person come from; where a person feels at home; where a person is happy and relaxed; and where one feels safe.

Yet, as seen in Chapter 14, sounds, foods, activities, and smells invoke *querencia* associated with particular places. These observations corroborate those shared by Kirkpatrick Sale (1985), an early proponent of bioregionalism. To Sale, *querencia* is

> a deep, quiet sense of inner well-being that comes from knowing a particular place of the earth, its diurnal and seasonal patterns, its fruits and scents, its history and its part in your history... where, whenever you return to it, your soul releases an inner sigh of recognition. [1985:ix-x]

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[13] Several Hispanic individuals with whom I have talked in various contexts over the past few years know the term *querencia*, but their understanding of this concept is limited to the ideas of the place where an animal spends much of its time or has a tendency of returning to (see also Chapter 14).

Alice M. McSweeney and Carol B. Raish add that the phrase, "*Querencia, donde quieres estar,*" effectively encapsulates the intangibility in the use and meaning of *querencia*. The phrase translates as

> The place where you know how to go about the tasks of daily life, the place where you feel you belong. It is yours because you care about it; being there gives a sense of contentment and an uplifting spirit... [2012:14, after McSweeney 1995:113]

McSweeney and Raish add further that querencia "implies a reciprocal, symbiotic relationship" (2012:14). Moreover,

> There is contentment, a 'sense of belonging' to a place where [the people] know how to live and who they are. It is part of their identity, their way of life, their history—their past, present, and future. [McSweeney and Raish 2012:68; see also McSweeney 1995:112-113]

Landscape as Wilderness

As I examine earlier, ideas about nature and culture, as well as the scope and content of their interactions within the landscape, are complicated given the multiplicity of meanings imbued within each of these terms. Common, and significantly contrasting, understandings of the term *nature* obtain from culturally informed constructions that emphasize different aspects of perception and experience over centuries, even millennia, of Western history. Given that now prevalent wilderness ideas are cultural constructs that draw heavily from divergent understandings of nature, the voluminous body of scholarship (e.g., Nash 2001; Oelschlager 1991) and the enthusiastic and sometimes rancorous debate (e.g., see Callicott and Nelson 1998; Cronon 1995b; Nelson and Callicott 2008) in response to the seemingly simple question, "What is wilderness?," is unsurprising.

The details of the debate that some consider "great" (Callicott and Nelson 1998; Nelson and Callicott 2008)—and others view as "not so great" (Orr 2008)—"wilderness debate" make for provocative reading. Participants on all sides offer useful insights into the compelling and divergent issues concerning the development and implementation of responsible land

management initiatives. Practical constraints necessarily limit the coverage of the comments that follow. Keeping with the precedent of my earlier discussion of nature, I begin by sketching a cultural-historical outline of key aspects of wilderness concepts that help shape and motivate contemporary opinions about the meanings of wilderness. I next examine several pragmatic implications of the ongoing wilderness debate, which pits those persons who view wilderness as a material entity now under siege by humanity's actions against others who view wilderness as a "peculiarly Euro-American, male construct" (Proctor 1998:354).

When Adam and Eve were expelled from the Garden of Eden, humankind was sentenced to life in a wild, dark and disorderly wilderness. People also were forever thereafter required to earn their subsistence through their own labor, while carrying the hope that their work would redeem their souls and their domestication of the land would redeem the wasteland (Merchant 1995:134; see also above).[14] The wilderness to which humanity had been exiled had little to offer civilized men and women, and as people created civilization by building cities and gardens, the word *wilderness* came to refer to settings "on the margins of civilization where it is all too easy to lose oneself in moral confusion and despair" (Cronon 1995a:70). Ideas that wilderness comprised geographic tracts that were "'deserted,' 'savage,' 'desolate,' 'barren,'—in short, a 'waste'" (Cronon 1995a:70) prevailed well into the Romantic period. The Romantic's idealization of nature, in combination with the view that the New World was "Eden Restored" (Nash 2001; Worster 1993; see also above), provided the foundations for a profound transformation in wilderness meanings among the people of the United States. In his introductory comments to his classic study, Roderick Frazier Nash explains,

> WILDERNESS was the basic ingredient of American culture. From the raw materials of the physical wilderness, Americans built a civilization. With the idea of wilderness they sought to give their civilization identity and meaning (2001:xi, capitalization for emphasis in original).

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[14] This age-old Judeo-Christian view of wilderness parallels traditional Native American perspectives. For example, Anderson (2006:3) notes that Native Americans "often use the word wilderness as a negative label for land that has not been taken care of by humans for a long time, for example, where dense understory shrubbery or thickets of young trees block visibility and movement" (2006:3).

Notably, this American invention is unique. Because the United States was so unlike Europe and without a deep sense of New World history, this conceptualization did not qualify as landscape type according to the conventions of the nature-culture dialectic that still reigned in the Old World (after Mugerauer 1995:61).

Under the influence of the likes of Henry David Thoreau, Ralph Waldo Emerson, Walt Whitman, and John Muir, Transcendentalist views became in-grained in America's psyche during the nineteenth century and fueled a shift in the meaning of nature (see above). Wilderness, which had been the antithesis of all that was civilized, light, and ordered, became a key metaphor in America's unique reinvention of the Edenic myth, grounded in the complex of connected ideas of nature-as-women, -home, -household, and –nurture (after Cronon 1995a:72; Merchant 1995:147; see also above). When Thoreau famously proclaimed, "in Wildness is the preservation of the World" (2012:572, capitalization in original), a culturally informed conceptualization of wilderness as an end in its own right and a domain whose defense as an integral part of the world would help ensure humanity's salvation (after Oelschlaeger 1991:4) became figuratively etched in stone.

No longer "a place to be shunned and hurried through" (Budiansky 1998:22), wilderness was actively sought out by many, among whom was John Muir, for the promise of renewal. Propelled by concerns of the ever-dwindling loss of wilderness, Aldo Leopold, who loved the outdoors "with the ethical and aesthetic sensitivity of a Romantic" (Nash 2001:182) by vocation and whose formal training in forestry helped prepare him for a professional career working in ecological science, dedicated himself to its protection beginning as an employee in the USFS in the Arizona and New Mexico territories of the southwestern United States.

Leopold, through his ecological training and temporal perspectives, understood that human beings are an instrumental part of nature's evolutionary process. He also maintained that because human beings are sentient members of "the community of life," they possess the obligations to (1) evaluate the consequences of their actions, and (2) "preserve the land" (Oelschlaeger 1991:206). Leopold developed a land ethic, which he himself recognized in his treatise *Sand County Almanac* (1949), was "an attempt to synthesize three rival and often conflicting perspectives on the land: the ecological, ethical, and aesthetic" (Oelschlaeger 1991:207). In conceiving and acting toward wilderness as a "model of ecological perfection"

(Nash 2001:197), the tensions inherent in Leopold's attempted synthesis of a land ethic in the absence of practical methodologies for forging these disparate parts into a whole (Oelschlaeger 1991:206) are evidenced.

To paraphrase a passage by Nash (2001:197-198), Leopold's idea of wilderness:

- Represents "[w]hat the land was, what it is, and what it ought to be" (Leopold 1934:60);
- Provides insights into how evolutionary processes unfold when unimpeded by human actions, thereby serves as a baseline "standards against which to measure the effects of violence" (Leopold 1939:730) wrought by people onto the world; and
- Illustrates how healthy land maintains itself as an organic community (Leopold 1941:3).

According to Max Oelschlaeger, Leopold saw clearly that "[h]umankind is part of a grand evolutionary process, and our species cannot only recognize but preserve and promote beauty, thus reforming or redeeming history; similarly, those activities that destabilize ecosystems or threaten environmental integrity can be redirected"(1991:240). Leopold cast humanity's role in the community of life less as an unstrained participant in the process of everyday living and more as a humbled facilitator whose work is devoted to ensuring the protection of wilderness. Reed F. Noss, who recognizes "that humans are fundamentally part of nature (though arguably a malignant part" (1994:61), maintains that the major lesson of Leopold's work is for people to keep themselves within the limits set by the evolutionary histories of their landscapes (1994:67).

There are two general classes of meaning—one of common sense and the other of legislated policy—for the term *wilderness* often found in collective use today. The common sense meaning owes much to the Transcendentalist tradition and Leopold's view of wilderness as an autonomous entity. Simply stated, wilderness is "a pristine environment that is free from any human impact" (Higham et al. 2000:213). In this conceptualization, "wilderness came to be valued as the most authentic American landscape" (Norwood 2001:82, citing Cronon 1995a).

The Wilderness Act of 1964, whose principal author was Howard Zahniser of the Wilderness Society, provides the legislative definition:

> A wilderness, in contrast with those areas where man and his own works dominate the landscape, is hereby recognized as an area where the earth and its community of life are untrammeled by man where man himself is a visitor who does not remain. [United States Public Law 88-577, 1998:121]

The Wilderness Act of 1964 further describes wilderness as "undeveloped" land that:

- Retains its "primeval character and influence;"
- Is without "permanent" or "substantially noticeable" improvements;
- Offers "outstanding opportunities for solitude or a primitive and unconfined type of recreation;"
- Is "protected and managed so as to preserve its natural conditions;"
- May also contain ecological, geological, or other features of scientific, educational, scenic, or historical value (United States Public Law 88-577, 1998:passim).

Key concepts introduced in the Wilderness Act legislation include *untrammeled* and *natural* (Landres et al. 2000:377). Zahniser purposefully chose the uncommon term *untrammeled* "to establish a relationship between people and the land that was based on restraint, humility, and respect" (Landres 2010:90).[15] Zahniser made his word choice in the attempt to cultivate a certain sense of interdependence and interconnectedness with the land (1956, in Landres 2010:90). Synonyms for *untrammeled* include "unimpeded," "unhampered," "uncontrolled," "self-willed," and "free" (Landres et al. 2000:377). Significantly, "freedom from human control" is a very different thing than a "lack of human influence" (Cole 2000:78).

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[15] Many people misinterpret *untrammeled* to mean *undisturbed*. Importantly, untrammeled "is not a descriptor of the ecological condition of the land" (Aplet and Cole 2010:17, citing Scott 2001:74).

Zahniser intended to cast people in the role of restrained "guardians" rather than active "gardeners," (1963:2, in Landres 2010:91; also, see Fincher 2012:152). Peter Landres contextualizes Zahniser's casting,

> This restraint should be based not on naiveté or wishful thinking that there is not an ecological problem, or a lack of understanding about the consequences and trade-offs of restraint, but rather on a purposeful and willful holding back to respect nature's autonomy and to observe and learn from what happens. [2010:91]

The influence that Zahniser foresaw for humans to play in "keeping wilderness 'untrammeled' is seen to be a very different notion from keeping a wilderness 'natural'" (Cole 2005:24). David N. Cole concedes that there is some overlap in this set of ideas, but he maintains,

> wilderness as untrammeled is about means more than ends—about how humans interact with wilderness ecosystems more than the effect of that interaction. That is why the extent to which wilderness is untrammeled has more to do with the symbolic value of wilderness than either the ecological or experiential values of wilderness. [2005:24]

In his statement before a committee of the New York State Legislature in 1953, Zahniser offered a deeper look into the substance of his philosophy when he stated, "We must remember always that the essential quality of the wilderness is its *wildness*" (in Landres et al. 2000:377, italics added). Gregory H. Aplet and others (2000:90) report that perceptions about the wildness of a place commonly include characterizations of the land's freedom and naturalness. *Freedom* refers to the degree to which land provides opportunities for solitude, its remoteness from mechanical devices, and the extent to which ecological processes are left untouched by human management. *Naturalness*, in comparison, refers to the degrees to which land maintains its natural composition, remains unmodified by structured human activity, and is unpolluted (Aplet et al. 2000:90). In David Harmon's opinion, naturalness "is itself a value, a value that's coalesces around the proposition that there are forms of life that have autonomy, in that their life trajectories are not controlled or dominated by people" (2010:258). Without question, Zahniser

invested value not in in the idea of wilderness, which is a form of nature, but in wildness, which is a state of being (Proctor 1998:358).

The use of the term *natural* in the Wilderness Act of 1964 (United States Public Law 88-577, 1998) complements that of untrammeled when viewed *within the context* that Zahniser carefully constructed. Synonyms of *natural* include "native," "aboriginal," "indigenous," and "endemic" (Landres et al. 2000:377). In its subsequent use in wilderness management, however, the subtlety of Zahniser's harmonizing meanings of untrammeled and natural were obscured. Daniel B. Botkin (2000:49) explains that under the earlier idea that wilderness represented a steady state of nature, a wilderness area and a natural area would be synonymous; however, with the recognition that ecological systems are in a constant state of flux, what is natural might not coincide with an idea of wilderness. Consequently, natural and nnaturalness shifted from concepts guiding the stewardship of wilderness to a contrasting set of ideas, including the minimization of human effect and influence, the preservation of historical conditions, and severe restriction on actions that try to exert control over nature (Aplet and Cole 2010:17). Ideas about what is natural, therefore, became associated with the traditional view that humans are separate from nature (see above).

This redefinition of naturalness has other consequences. Joseph W. Roggenbuck (2012:194), for example, maintains that the revised idea of naturalness tends to overlook the fact that some lands designated as wilderness areas have been profoundly shaped by past peoples. He suggests that there exists a view in which wilderness areas are representative of natural ecosystems. Moreover, provided that they are protected from human intervention, wilderness areas can return to a supposed aboriginal climax condition. Harmon (2010:257) adds that this revised idea of naturalness, complete with its built in suppositions, has become the sole benchmark of successful management.

Cole (2000, 2003, 2005) finds further that ambiguities within and contrasts between the vernacular and legislative definitions of the wilderness concept now pose substantive management dilemmas. Two general issues stand in the forefront. The first consists of concerns about what constitutes the appropriate access to—and use of—wilderness lands. The second involves questions about the appropriateness of manipulative restoration in wilderness (Cole 2003:28). Nash writes, "[T]he existence of wild country reflects self-imposed ethical restrictions

on our capacity to control, exploit, destroy, and grow" (2001:389). Yet, under prevailing conditions, different stakeholders tend to interpret the term *wilderness* generally and the 1964 Wilderness Act specifically to advance the particular values that each holds dear (Cole 2003:29), thereby resulting in a plethora of opposing opinions about the values of wildness and naturalness.[16] Landres and others, in turn, note that "wilderness managers now find themselves in the ironic situation of choosing between wildness and naturalness" (2000:379).[17]

Mark Fincher (2012) argues that wilderness values reside fundamentally in the integration of people and nature. With the increasing crystallization of the common sense view that wilderness is "the one place on earth that stands apart from humanity" (Cronon 1995a:69) in contemporary society, some scholars have taken the position that prevailing wilderness ideas have come to alienate "us from the very nature we seek to preserve" (Norwood 2001:82). Although the proponents of the environmental movement in the United States today characteristically embrace the idea of wilderness as a central tenet of their work, Cronon maintains that wilderness "is quite profoundly a human creation—indeed, the creation of very

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[16] J. E. S. Higham and others state, "Wilderness... has no commonly agreed physical reality, but it exists where personal cognitions dictate; different people perceive wilderness in different ways and in different places, but, for each of them, wilderness exists in that place, although it might not for others" (2000:219). See also George H. Stankey (2000:11) for similar sentiments.

[17] See Charisse A. Sydoriak and others (2000) for a compelling consideration of this management dilemma, citing the Bandelier National Monument on the east flanks of the Jemez Mountains as their case study. Speaking as proponents of a research-based management approach, they argue, "We can 'make believe' that everything will turn out right if nature is left to take its course in our unhealthy wildernesses, or we can intervene to facilitate the healing process" (Sydoriak et al. 2000:214). Stephen Budiansky argues, "To have a 'functioning ecosystem,' we would have to make it happen. Intrusion is ecologically sound policy; 'wilderness' is not" (1998:31). David J. Parsons (2000:252) adds some ecologically-minded stakeholders perceive wilderness managers as unable—or possibly unwilling—to consider the benefits of research-based management beyond the narrow needs of the local area. Meanwhile, Cole maintains, "The symbolic values of wilderness [i.e., wildness and naturalness] are the most radical elements of the wilderness idea" (2005:27) and contrast most strongly with the world views held by ecologists and stakeholder groups, which emphasize access favoring their experiential values. Parsons (2000:252) then notes some advocates of a research-based management approach are either unable—or are possibly unwilling—to understand the philosophical bases of intangible wilderness values and the significance of the impacts their land altering activities may cause.

particular human cultures at very particular moments in human history" (1995a:69). He suggests,

> The trouble with wilderness is that it quietly expresses and reproduces the very values its devotees seek to reject...The dream of an unworked natural landscape is very much the fantasy of people who have never themselves had to work the land to make a living-urban folk for whom food comes from a supermarket or a restaurant instead of a field, and for whom the wooden houses in which they live and work apparently have no meaningful connection to the forests in which trees grow and die. Only people whose relation to the land was already alienated could hold up wilderness as a model for human life in nature, for the romantic ideology of wilderness leaves precisely nowhere for human beings actually to make their living from the land. [Cronon 1995a:80]

Landscape as Time Remembered

Anthropologists, geographers and historians, among others, document a characteristic shared among all humans: the remembrance and celebration of rich cultural-historical memories. The recollection and celebration of the past started not with writing but with shared stories from one generation to the next at the beginning of human time.

As mentioned previously, all Western landscape definitions incorporate the perception of time passing (after Bender 2002:S103; e.g., see Cook 1996; Hirsh 1995; Mitchell and Page 1993; Page et al. 1998; Sauer 1925; Tuan 1974, 1977; Williams 1983, among others). Just as landscape itself, time is not a given, nor is its construction neutral (Bender 2002:S104).

It is more than simply that time is characteristically understood to be a linear progression among Anglo-American communities, while many native communities maintain the tradition of viewing time as unfolding in a cyclical or repetitive fashion (e.g., Ingold 2000; Jackson 1994; Tuan 1974, 1977). Every community imbues its landscape with intrinsic meaningfulness based on its cultural patterns of perception and interpretation (see Anschuetz 1998:44–58). These perceptions include not only the community understandings of its physical environment and resources, but also time and how people interact with their cultural-historical memories. As

such,"cultural histories speak the language of the land. They mark the outlines of the human/land consciousness" (Salmon 2002:89).

Bender (2002:S104) comprehends that the cultural meanings that communities assign to time within their landscapes are imbricated in social relationships and are highly political. Harold Pinter, the Nobel Prize-winning playwright, screenwriter, director and actor, famously said, "The past is what you remember, imagine you remember, convince yourself you remember, or pretend to remember" (in Adler 1974:462).

It is reasonable to say that the people of the United States are not exceptional in the sense that we cherish the past. Just as with our sense of nature and wilderness (see above), however, our reverence of the past is unlike the European experience, as signified by the voluminous body of legislation that our elected representatives have passed over the last half century to protect and maintain cultural resources.[18] The common sense saying, "Those who fail to remember the past are doomed to repeat it,"[19] however, starkly reveals the natures of our perceptions and preoccupations when we talk of the past. As a national society, we can learn from the past. We can even honor the past in our collective memories. We view history, however, as a thing of the past that resides outside our everyday experience. We do not *live* our history. *We try to move beyond our past and not to repeat it.*

Getting "to know a place" takes time. Consequently, physical space in an environment "becomes a place" only when people establish roots and acquire knowledge of its essential characteristics through their daily activities, beliefs, and values over time. Time alone is not enough, however. Experiences with the land and its resources influence how people learn about a place and understand their relationship with the landscape. Through physical modifications and the experience of history, people reshape the natural environment to legitimize the meanings

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[18] This legislation includes the National Environmental Policy Act (NEPA) and the National Historic Preservation Act (NHPA) (see King 1998, 2009), as well as wilderness tracts (e.g., the Wilderness Act [United States Public Law 88-577, 1998]).

[19] This folk saying derives from the work of the American philosopher, George Santayana. In his publication, *Life of Reason*, published almost a century ago, Santayana wrote, "Progress, far from consisting in change, depends on retentiveness...those who cannot remember the past are condemned to fulfill it" (1905:284).

they imbue on the land and to create an identity in terms of the land. Through the intimacy of experience and the sharing of memories over the passage of time, a community transforms its geographical spaces into valued places of meaning through which people sustain their identity, possibly even projecting their sense of soul on particular entities, phenomena, and places.

Important sources of knowledge from times past about the material consequences of how people used, occupied, and transformed their landscapes are embedded in each community's cultural-historical narratives. This history is continuously re-enacted in the present through the group's traditional beliefs and practices, thereby continually reaffirming the community's cultural-historical associations with its landscapes (after Parker 1993:4). Landscapes, in turn, become a mirror of a community (Anschuetz et al. 2001:190).

The need by people to sustain their community's traditional understandings of time and place across the generations is powerful (after Anschuetz 1998:70–71). On the one hand, a community's ability to provide points of seeming past stability and future assurance in its cultural-historical memories transfixes time. That is, in established landscape constructions, a community's history with the places with which it affiliates seems timeless. On the other hand, the relative absence of time with new places within its landscapes might yield a sense of uncertainty, or possibly a feeling of unreality, because the community has yet to invest coherent meaning—and meaningfulness—into its affiliation with a locality (after Popcock 1994:366, 369–370). For example, if a group immigrates into an area with which the people have no direct historical experience, the émigrés might immediately impose conceptual features of their former landscape onto their new environment. If other communities already inhabit the environment, they might adopt aspects of the culture history of established residents to establish immediate frames of reference through a creative construction of community memory (e.g., see Rapoport 1990; Stone 1993). The logic then follows that the new community arrivals will build upon these cultural-historical points of reference as they develop their own intimacy with their new landscape over the passage of time and their direct experience with these places.

Landscapes become a legacy of past time because they result from cultural choices and modifications made by earlier generations. As such, they are not only an organization of space, they are an organization of time. Importantly, each generation is the custodian of the community landscape, which is firmly rooted in tradition (see above).

Comprehension that the physical spaces, including tracts of rangeland, surrounding formally built community centers are neither natural nor exclusively part of nature is an indispensable first step. A landscape's physical spaces are not silent on questions of community history and cultural heritage. Through its goal to identify the values and associations that make a landscape historically significant in terms of National Register criteria (Page et al. 1998:4), the NPS has demonstrated the understanding that people do not need to build visually striking villages or great monuments across their natural environments to construct richly featured landscapes. The places in which people live, raise families, work, and die are more than just scenery; landscapes are the quintessential product of human presence over time. Jackson (1980, 1984, 1994) views landscapes as maps of living history that people are continuously reorganizing.

Memory

> All awareness of the past is founded on memory. Through recollection we recover consciousness of former events, distinguish yesterday from today, and confirm that we have experienced a past. [Lowenthal 1985:192]

In his monumental work, *The Past is a Foreign Country*, historian and geographer, David Lowenthal notes, "We accept memory as a premise of knowledge" (1985:212). Although it recalls the past, memory is very much rooted in the present, and it pervades much of every life in the present and looks toward the future. "[A]s a form of awareness, memory is wholly and intensely personal" (Lowenthal 1985:194), but individuals "need other people's memories both to confirm [their] own and to give them endurance (Lowenthal 1985:196). Moreover, memory transfigures the past, distilling and interpreting it, rather than merely reflecting it. Lowenthal concludes, "The prime function of memory, then, is not to preserve the past but to adapt it so as to enrich and manipulate the present" (1985:210, citing Hunter 1964:202-203).

Kendall R. Phillips suggests that memory may be viewed "as a way of understanding the complex interrelationships among the past, present, and future" (2004:2) in terms of the diverse, mutable, and often competing accounts of past events retold through dynamic cultural-historical processes. This sense of "living" memory, which contrasts markedly with ideas that there exists some official written history, acknowledges that human societies not only constitute their

memories through their everyday activities, rituals, and relationships. It simultaneously recognizes that human societies are constituted by their memories (Phillips 2004:2).

Phillips notes further that the dark side of memories, specifically public memories, includes erasure, silence, and forgetting. To this list, Lowenthal (1985:206-210) adds revisionism. While the alteration or destruction of memories (as through the mere act of forgetting [see below]) can free people from a dependence of a mythical past, they are also potentially dangerous because "they can falsify and destroy the *real* past" (Lowenthal 1979:125, italics added). Because communities possess capability and power to authorize, transform or reject memories, they consequently possess the responsibility to remember certain things (Phillips 2004:5).

Edward S. Casey (2004) identifies four major principle classes of memory: *individual, social, collective,* and *public*.

Individual memory refers to the perception and interpretation of events and activities, including those that occur within very public arenas, persons experience either directly or remotely throughout their lives. While an individual's idiosyncrasies, such as personality and state of mind, are contributing variables, it is reasonable to suggest that the cultural milieu of a person's community likely establishes the foundations upon which her or his perceptions, attitudes, and values are based.

People remember things, environmental complexes (landscapes), and worlds through a complex of recognized associations, reminders, and reminisces (Casey 2004:21). Casey adds that reminiscing with others "is a primary prop of social memory; and it introduces the crucial factor of language into memory, and thus narrative and history" (2004:21). Although individual memories are distinguishable, they are not separable from their social dimensions: "[e]very single act of remembering...comes saturated with social and collective aspects, as well as with cultural and public determinants" (Casey 2004:21).

Social memory consists of those remembrances that are held in common among people who are somehow already related to one another by virtue of kinship, civic responsibility, objective, or world view. It intensifies personal recall. Importantly also, "memory both presupposes these preexisting relationships and is often concerned with aspects of these

relationships themselves" (Casey 2004:22). Nonetheless, social memories are not necessarily shared broadly. For example, families often keep secrets that they assiduously try to keep from becoming public knowledge. Social memory "is tantamount to 'co-reminiscing,' that is, remembering in quasi-narrative form" (Casey 2004:22). Persons who engage in such social reminiscing:

- Hold some aspect of their histories in common either through direct experience or by proxy through close affiliation with another who directly participated in the experience;
- Share knowledge of the place, in which the experience was enacted and experienced, in common; and
- Are able to express this "history-in-that-place" in words or other forms of symbolic communication and expression shared among the members of their particular social group (Casey 2004:22-23).

Collective memory consists of social constructions of shared past experiences that are informed by the sentiments, values, and the present circumstances broadly held among the members of definable communities. Casey describes collective memory as "a case of remembering neither individually in isolation from others nor in the company of others with whom one is acquainted but *severally*" (2004:23, italics in original). He explains that his use of the term *severally* refers to plural remembering among a collective, which has no basis in overlapping personal histories or shared knowledge of places per se.[20] Instead, collective memory is nothing more than a joint recollection of some event that is independent of shared experience, history or place, or purpose. Collective memory, forms "a loose net within which events and other items are recalled in comparative isolation and hence at the extreme opposite position from individual remembering" (Casey 2004:25). A group that shares some collective memory

[20] Casey (2004:23) lists the remembrance of John F. Kennedy's assassination and the attack of September 11, 2001, as examples of collective memory.

> is not based on prior identity or particular placement. It is formed spontaneously and involuntarily, and its entire raison d'être is a convergent focus on a given topic: typically an event but also a thought, a person, a nation. The members of this momentary collectivity are linked solely by the cynosure on which their attention falls. [Casey 2004:24]

Casey's identification of shared thoughts as the bases of collective memory is relevant to the present study of land management in the Jemez Mountains. People of diverse backgrounds and residences can come together in certain situations to form collectives based on little more than they share common ideas about nature, culture, or wilderness, etc.

Public memory "is out in the open" and "serves as an encircling horizon" (Casey 2004:25) for individual and social memories. Public memory is both "the way society makes its past meaningful" (Stewart 2012:205) and it "is about creating value for something or some place" (Stewart 2012:203).

Public memory is the essential counterpart of collective memory given that is allows co-remembering through co-reminiscing. It is an active resource, which members of the public invoke and build upon in dynamic ways for their contemporary and anticipated purposes. As such, it is subject to continuous reassessment and revision by the public itself if the content of an extant memory is subsequently determined to be false, or a different, ethical or historical context occupies center stage of altered frames of reference, attitudes and values (after Casey 2004:29).

Although public memory is intrinsically mutable, it can be used socially and politically as a mechanism, which communicates an appearance of relative constancy even in the face of dramatic vicissitudes. Casey remarks,

> No wonder that every revolution, no matter how radically it questions the official public memory of the ancient régime, immediately establishes as if by mandated necessity a new version of such memory—meant to be just as perduring as the previous version and hopefully more lasting, a new calendar of events to be publicly remembered, etc. [2004:25-27]

The ever-changing can, therefore, be viewed as possessing the power of original authenticity even as it retains the option to accommodate modification in the future. "In that future, it may become other than it *was*, even if what it was remains requisite for the very constitution of the public realm itself" (Casey 2004:31, italics in original).

Casey (2004:30) makes an explicit point not to condemn public memory for being a fragile or fickle cultural construct subject to corruption. Rather, he emphasizes that these characteristics are representative of public memory's essential constituent feature: it is the product of ongoing social and political discourse. Public memory is subject to change because it invariably—and very openly—occupies the public arena for discussion and debate.

> There is little in our lives that is untouched by public memory, even if we do not focus on it except on ceremonial occasions or in massive emergencies... A large part of the very power of public memory resides in its capacity to be for the most part located at the edge of our lives, hovering, ready to be invoked or revised, acted upon or merely contemplated, inspiring us or boring us... [Casey 2004:37]

There are five indispensable and interrelated characteristics of public memory (after Casey 2004:32-36). First, public memory is place specific. A *public place* sets the stage for—and facilitates—the act of remembering. It might also embody the memory in some cases, such as celebration of group remembrance at memorials and monuments. Public memory, therefore, requires access among diverse constituencies who might share little in common other than particular memories.

Second, while place provides the physical foundation for the observance of public memory, *public presence*, which constitutes a kind of congregation, even if loosely socially and temporally organized and of brief duration, wherein people come together. The defining relationship of the members of a congregation is their participation (Rappaport 1999:39). Casey explains that such proximity is not for the sake of intimacy, such as is often wanted in social memory, "but for the sake of a public presence that can be accomplished only when people congregate for a common purpose" (2004:33). Casey maintains that a public presence requires a simultaneous community gathering in which participants come together at a certain place at an

appointed time to participate in the observance in one another's company. I suggest, however, that congregations at monuments might also be sequential, with a nearly continuous stream of people who share the community's ideals arriving to partake in a pilgrimage whose ritualized content and organization are effectively structured by the monument (and its caregivers). In this sense, each pilgrim is a member of a meta-community, who, in turn, can share their cognized experience with close others through the sharing of social memory.

Third, public memory encourages *public discussion* among participants in and/or about a public place. "The praxis of public memory is primarily discursive" (Casey 2004:33). Discourse may take variable forms, including philosophical dialogue, exhortation, and nostalgic recollections. While images and gestures might occur in accompaniment, language use in the celebration of public memory motivates and articulates the open sharing of that which might have otherwise remained sequestered and never discussed to foster the creation and maintenance of a shared reality *in the present*.

Casey (2004:38-39) frames his consideration of public discussion in terms of its needing to be enacted within specific locations. From the perspective of landscapes, which lend themselves to the construction, nurturing, and conservation of people's personal and social identities (see above), I think that an essential requirement of public memory may be fulfilled in large measure outside the physical place. Discourse, nonetheless, must share (or at least convey overlapping) intimate knowledge (as opposed to the simple statement of an abstract idea) of a specific place should the communication exchange occur elsewhere. That is, because landscapes may understood as a "web of memories and ideas that create an identity... [and] ...is a part of oneself" (Silko 1995:167), people possess the capacity to carry particular places within themselves, as demonstrated through their thoughts, speech, and activities that project their sense of soul on particular locations. Through this act of ensoulment informed by deeply rooted community traditions, people are able to maintain the "stability of place." Casey (2004:39) maintains that stability of place is a requisite for counteracting the intrinsic mutability of public memories within an ever-changing world.

Fourth, public memory concerns a *common topic*. Agreement on the topic is not a requirement; in fact, an issue might be so divisive that consensus is beyond possibility. According to Casey (2004:35), what matters most is not that differences in opinion might not be

resolved in discourse; it is the fact that even a highly contested topic still links participants in a common concern.

Commemoration in place is the fifth and final characteristic of public memory in Casey's (2004) list of indispensable attributes. Commemoration, which may range from explicit eulogies to unstated allusions to an honored past, signifies a communal celebration of a memory in and/or about a public place. Just as public memory itself, commemoration is practiced in the present (and for purposes explicitly rooted in the present) to remember a past event, person or state of being, while simultaneously looking forward with the intent that the memory of the event, person or state of being is celebrated, if not also acted upon, in the future (after Casey 2004:35). Again, Casey links the commemoration of public memory to performances with particular public places. I maintain, following the tenets of a landscape perspective, that public memories may be freed from such a specific geographic requirement provided that the participants in a commemorative act (1) carry intimate knowledge of the public place within themselves and (2) share their cognized experience with similarly knowledgeable congregants.

Before concluding this discussion of memory, a few general observations about monuments as kinds of memorialized landscape features are warranted. These comments provide context for subsequent discussion about the challenges of past, present, and future landscapes. Lowenthal writes,

> Monuments and memorials locate the remembered or imagined past and the present landscape. Their function is not to preserve the past but to recall and celebrate it. They seldom point the way to historic localities or structures, but stand instead as evocative reminders of some epoch's splendor, some person's power or genius, some unique historical event. [1979:121; see also Lowenthal 1985:321]

Monuments and memorials unquestionably contribute to people's awareness and recollection of certain memories of past times. They help people invoke particular memories that allow them to understand the lessons of prior experiences. Monuments and memorials, however, "differ from other forms of historic appreciation...both in being subsequent to the times they point to and in their freedom from ties to locale" (Lowenthal 1979:123).

Lowenthal embraces the view that people require reminders of their heritage in their landscapes to sustain certain memories (1979:125). His endorsement is tempered with a few considered cautions. Notably, "the memorial act implies termination" (Lowenthal 1985:323). Monuments and memorials "not only remind us about the past but impress us with its significance and our *loss*, reinforcing our reluctant recognition that it is forever gone" (Lowenthal 1985:324, italics added). Moreover, because monuments and memorials are representations of the past that are designed to enrich and manage the present for contemporary purposes, their construction—or designation, as in the case of wilderness areas—to appreciate the past fundamentally and inevitably transforms the landscape (after Lowenthal 1985:125; see also below).

Forgetting

Lowenthal observes, "For memory to have meaning we must forget most of what we have seen..." (1985:204). He continues: "Memories must continually be discarded and conflated; only forgetting enables us to classify and bring chaos into order" (1985:205). To attempt to recall too much of the past too richly, a person would soon be overwhelmed. Lowenthal maintains further that the most vividly remembered and meaningful past scenes, events, and processes "are those which were for a time forgotten" (1985:205).[21]

Phillips, however, recognizes a significant potential problem with acts of forgetting: "If the existence of a healthy and functioning public is intertwined with its capacity for remembrance, then the gradual erosion by forgetting must represent a grave danger" (Phillips 2004:4, citing Browne 1995). Because the past, and people's active relationships with the past, are dynamic constructions that unfold within a milieu of social and political discourse in which not all participants have equal access to, or power to revise, information about the past, purposeful strategies and tactics might be employed to achieve a directed kind of cultural

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[21] Lowenthal cites Roger Shattuck's interpretation of Marcel Proust, as well as Proust's own writings, to explain his meaning: "True memory or recognition surges into being out of its opposite: *oubli* [oversight, forgetting]" (Shattuck 1964:63); and "Owing to the work of oblivion, the returning memory... causes us to breath a new air, and air which is new precisely because we have breathed it in the past,... since the true paradises are the paradises that we have lost" (Proust 1983, 3:903).

amnesia, such as seen in the case of revolutionary revisionism to establish a qualitatively new kind of public memory (after Casey 2004:25-27).

History

In a general sense, the term *history* refers to organized knowledge about past events. It extends and elaborates memory through the documentation of relics from the past and the synthesis of reports based on eyewitness accounts (Lowenthal 1985:210). History neither requires that people first need to be literate to possess history, nor precludes insight into such history. Speaking specifically of humans, Ingold defines history as a process "wherein the people of each generation furnish through their life-activities the contexts within which their successors grow to maturity" (2000:384). Lowenthal (1985:211) continues with the claim that natural lands, plants, animals, heavens, and the like have historical pasts, even if they lack the motivating agency of human history.

Williams (1983:146) advises that it is necessary to distinguish an important sense of history, which is more than, but includes, the idea of organized knowledge of the past. A common sense human history does not focus on specific histories as such; instead, its perspective views human history more broadly as a continuous and connected process of human self-development (Williams 193:146; e.g., see Ingold 2000:363, 366). With respect to its interest in human self-development, history loses its exclusive association with the past to connect with the present and future alike. Whereas *historical* refers mainly (though by no means exclusively) to the idea of organized knowledge about the past, *historic* most often is used to include the sense of progress or destiny (Williams 1983:148).

Perspectives on historical understanding are diverse; in certain cases they can include what is sometimes derided as mythological (Lowenthal 1985:211). Just as memory, Lowenthal notes, "Our sense of history goes beyond knowledge to empathetic involvement" (1985:212). That is, history does not simply re-create a past; it is itself a cultural process that is subject to selective recall and designed revision. "In a sense, history only remains history when we are ourselves inside it, having inherited a particular set of circumstances, yet able to act to change them" (Thomas 1995:23). Lowenthal concludes, "History is thus both more and less than what

historians study...None the less, the divergences between history as a discipline and historical knowledge... are manifold and significant" (1985:212).

Viewing the world from a landscape perspective, it can be said that the dynamics of the natural world are inexorably and wholly linked with human history (Deming and Savoy 2002:8). Troy E. Hall and David N. Cole (2012:38) explain that people continuously perceive and experience the social and physical environment around them. They make sense of this perceived experience through cognitive processes that include the filters of cultural symbolic meanings and linkages to personal history.

While the visible landscape does not constitute a complete historical record, it is an accumulation of historical traces about people within their cultural communities that will yield much more information than that seen by the casual observer (after Meinig 1972). "Contextual characteristics, including cultural-historical relationships between people and their landscapes create definable land use patterns (Gobster et al. 2007:966). At a landscape level, these patterns are relevant to the topic of human history because they have been integrated into the perceptions and belief systems of area communities over time. Analyses of our present-day cultural views on the natural world must also adopt an historical perspective if the goal is to understand how the different communities that maintain affiliations with a common landscape have constructed and assigned meaning to their world views (after Hunt 1996:60). Hunt explains, "No less than in previous eras, our ideas and the forms they take upon the ground are conditioned by the specific time and place of their occasion" (1996:60).

Challenges of Past, Present, and Future Landscapes

> Landscapes refuse to be disciplined; they make a mockery of the oppositions that we create between time (history) and space (geography) or between nature (science) and culture (anthropology). [Bender 2002:S106].

Part of the underlying cause leading to this overwhelming diversity manifest among landscapes is a function of the physical environment itself given its variability in geology, physiography, flora and fauna, and climate across the dimensions of space and time. With respect to the preceding discussion, no less important are the perceptions, values, and attitudes with which people interact with their landscapes. As constructs informed by cultural traditions,

it bears keeping in mind that all landscapes are historically contingent and the landscape of one community invariably overlap with those of other communities. These many factors all help define the challenges of past, present, and future landscapes.

Contrasting Views of Landscape and Memory Relationship

The ways that people view the relationship between landscape and memory are also vital to the task of building an understanding of the breadth and depth of culturally meaningful variability in landscape constructions within a common geographic tract. The relationship between landscape and memory is relevant because it provides insight not just into the cultural ecological underpinnings of the interrelationships that a community of people maintains with its environment. This fundamental relationship also allows comprehension of key aspects of a group's construction of spiritual ecology.

There are two classes of land and memory relationship: *landscapes of memory* and *landscapes as memory* (Küchler 1993). Anglo-American and other Western cultural traditions typically construct understandings of *landscapes of memory*. Operating within this worldview, Anglo-American and other communities characteristically view history and landscapes in terms of enduring images inscribed on the land, such as historical monuments that commemorate the sites of important events. Melnick contributes another salient observation:

> The ways in which we think and speak about landscape, therefore, and our understanding of landscapes, often reflect the ways in which we have come to revere places as much for what they *were* as for what they *are*. These reflections are about supreme natural splendor and wonder, and about the larger and parallel idea that nature the ideal often overshadows nature, the real. [1996:31, punctuation in original, but italics added]

Additionally, Anglo-American and other Western communities characteristically image their landscapes using material forms, including archaeological sites, replete with inferred, interpreted, or assigned meanings and values. Importantly, this worldview typically (though not always) casts history as a series of events that people can learn from—and build upon—so *as not*

to repeat the mistakes of those generations that preceded us (after Santayana 1905:284;[22] see also Anschuetz 2000:2, 2004:11).

In contrast, traditional and historic groups, including the Pueblo Indian and Hispanic communities, which live on and around the margins of the Jemez Mountains, characteristically construct and occupy *landscapes as memory* (Küchler 1993). In these landscapes, the activities that occur and the places where these actions are undertaken are "integrated in a process that acts to freeze time; that makes the past a referent for the present. The present is not so much produced by the past but reproduces itself in the form of the past" (Morphy 1993:239–240). The landscape, then, is itself living memory (Anyon et al. 1997; Küchler 1993; Morphy 1993; see also Anschuetz et al. 2001; Ferguson et al. 1993; Jackson 1980; Parker 1993; Roberts 1997; see also below).

Given that the landscape concepts of people of traditional and historic communities characteristically are land based and process oriented, the landscape is understood immediately to be more than the present built environment (Tallbull and Deaver 1997) or a cultural resources site (Cleere 1995). In stating that their relationship with their history is not cast exclusively in a past that is a done deal never again to be repeated, community members reveal that they live their history not only to learn from it but also *to repeat it*. In this way, they sustain their respective community traditions and identities in the present and into the future (Carmichael et al. 1994; Hena and Anschuetz 2000; Kelley and Francis 1994; Swidler et al. 1997). Moreover, many Indian and Hispano people alike have advised me not to use "heritage" as an adjective for "preservation" when talking about making landscape features that they hold dear into preserves, monuments or memorials (see below). They hold steadfastly, "You preserve pickles, not people. We are living" (Anschuetz 2000:2).

Contested Landscapes

The intrinsic layering of culture and history in landscapes gives rise to three leading questions:

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[22] See footnote 16.

- [G]iven personal expectations and sociocultural norms, what is the authentic landscape?
- Which time period should be given precedence?
- Whose expectations count? [Gobster et al. 2007:968]

The interactions and experience of all people, regardless of their culture and history, in a landscape constitute necessary stories warranting respectful consideration (after Deming and Savoy 2002:9). Nonetheless, unlike ecological movements in other parts of the world, environmentalism in the United States has promoted a myth of pristine wilderness landscapes untrammeled by human beings as the standard against which actual landscapes are evaluated (after Heise 2006:507, citing Cronon 1995a). The predominance of this world view in the management of landscapes by governmental agencies programs (typically led by white men trained in scholarly disciplines linked closely to land management [Stewart 2012:205]) that rely upon the Wilderness Act of 1964 (United States Public Law 88-577, 1998), NEPA and NHPA (see King 1998, 2009) for policy and regulatory guidelines is problematical for a number of reasons. As discussed previously, recognition of a landscape's earlier generations of human inhabitants, who may include the forebears of traditional and historical communities who continue to maintain affiliations with these tracts of land today, might be unrecognized or undervalued. Heise writes,

> It conceals the fact that the apparently transhistorical ideal of wilderness only acquired connotations of the sublime and sacred in the nineteenth century and that the cultural valuation of pristine and uninhabited areas led to the displacement of native inhabitants and in some cases to the creation of official parks. [Heise 2006:507]

R. Bruce Hull and others (2003:12) bring two additional factors to attention. First, the environmental perspectives held by agency land managers may embody perceptions, values, and attitudes different from their constituents living in neighboring traditional and historical communities. These professionals work within an arena that privileges them with access to the language for engaging in environmental discourse and does not require them to "acknowledge the value-laden, prescriptive component of their language [,] let alone actively engage in a process that makes these values explicit" (Hull et al. 2003:11). Second, the state of current

environmental science, policy, and regulation largely lacks the scope and mechanisms to recognize, document, evaluate, and protect values held by their traditional and historical community constituents. Melnick further characterizes the situation:

> One of the more puzzling idiosyncrasies of land management in the United States has been the forced and often illogical categorization of land and resource types into rigid pigeon holes of natural, historic, wilderness, and recreation... We seem to be mired in a view of isolated resources, not in the sense of ignoring our fundamental ecological understanding of natural systems, but rather in our substantial inability to extend that paradigm to a larger world view which integrates natural and cultural resources. For example, we rely upon legislation to 'establish' wilderness, even if people have lived in an area for generations. [Melnick 1996:32]

In this narrowly conceived and segmented process, landscape insights offered by area residents might not be appreciated. Worse still, they might be trivialized, with professional agency land managers looking at their neighbors as uniformed or uneducated, even if well-intentioned. In circumstances where an asymmetry of social and political authority accompanies an insensitivity of cultural diversity, "may only further alienate those opposed to traditional governmental practices and make the public increasingly suspicious of environmental professionals" (Hull et al. 2003:12; see also Cessford 2000).

The challenge of such contested landscapes is compounded further by the fact that each of the four principal federal land management agencies (USFS, and the USDI Bureau of Land Management (BLM), NPS, and Fish and Wildlife Service), as well as the Valles Caldera National Preserve, has their own evaluation procedures (after Landres 2000:239). Moreover, these evaluation procedures might not consider the full range of ecological and social impacts comprehensively. For example, according to the NPS,

> preservation *treatment* calls 'for retention of the greatest amount of historic fabric,' while restoration allows for 'the depiction of a site... by preserving materials from the period of significance and removing materials from other periods'. [1995, cited in Cook 1996:43, italics in original]

Although he specifically addresses only issues related to the conduct of research projects within designated wilderness areas, Landres (2000:239) offers a pair of observations that are equally germane to circumstances commonly experienced by members of traditional and historic communities who live next to, and maintain active relationships with designated wilderness tracts. First, inconsistent evaluation procedures among offices within and between governmental agencies can lead to frustration and a lack of understanding between managers and scientists. Second, scientists may perceive land managers' decisions concerning the approval or denial of their proposals to conduct activities in wilderness areas as arbitrary and capricious.

In an effort to systemize governmental landscape policy, Cole advocates the need to develop regional and national perspectives "to help stewards of individual wildernesses make decisions about access and preservation, about naturalness and wildness" (2003:31). Such an approach, he maintains, might enhance managers' abilities to "maintain the purity of wilderness lands designated for divergent purposes—to avoid the muddied waters and loss of values that occurs when competing wilderness purposes are compromised on a case-by-case basis" (Cole 2003:31). Although well-intentioned, Cole's proposal is problematical because it would give greater authority to a smaller number of professional managers, thereby exacerbating fundamental inequalities already extant in landscape discourse.

In contrast to Cole, James W. Ransom and Kreg T. Ettenger (2001) are representative of environmentalists[23] who are proponents of greater participation in management processes by members of traditional and historic communities. They maintain that the administration of federal regulations must be sufficient flexible to allow for communities to develop and implement "culturally focused approaches to environmental protection and restoration" (Ransom and Ettenger 2001:227). In their case study, they emphasize the need to respect the cultural uniqueness and political autonomy of individual Native American tribes if the goal is to develop well-designed and locally implementable land management approaches. Their underlying premise is that traditional and historic communities characteristically possess exacting

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[23] See also Daniel R. Williams and Michael E. Patterson (1999), among other thoughtful essays in H. Ken Cordell and John C. Bergstrom's (1999) volume, *Integrating Social Sciences with Ecosystem Management*.

knowledge of their landscapes through the direct experience and cultural knowledge of their members.

William Stewart (2012) calls for research to update the traditional cultural narrative of wilderness in the United States to enhance the concept's relevancy within American cultural values. He describes his agenda as being "about a localized process of investing place-meanings by those who care about a wilderness area," (Stewart 2012:208). He adds that the creation of a public memory

> builds a unique identity for any given wilderness area based upon the integration of personal experiences with contemporary social and cultural values. The research developed on recreational place meanings provides a substantial platform for further inquiry to integrate social and cultural meanings with wilderness recreational experiences. [Stewart 2012:8]

Given its scope and content of his call for action, Stewart offers a potentially robust solution to the broad problem of inequalities in discourse concerning contested landscapes. Whereas his comments focus on the need to create public memory of wilderness, they are, at least in part, applicable to the topic of landscapes in general. He provides sound rationale for need to conduct public memory research:

> With few exceptions, the public memory of any given wilderness is not problematized by politicians, agencies, special interest groups, or intellectuals. Although there are no doubt concerns for specific sites within wilderness areas, such concerns are generally not grist for creating public memory of wilderness... In short, whereas there has been an aloof public memory evolving about wilderness as a philosophical concept, there has been little public memory associated with any given wilderness area. [Stewart 2012:205]

Making a Pickle of the Past: Landscape Preservation as an End of History

The final challenge of past, present, and future landscapes that I consider here is the topic of preservation. Lowenthal contends that landscape preservation, which includes monument making and the designation of wilderness areas, is really little more than a fool's errand:

> [A]dvocates of preservation who abjure us to save unaltered as much as we can fight a losing battle, for even to appreciate the past is to transform it. Every trace of the past is a testament not only to its initiators but to its inheritors, not only to the spirit of the past, but to the perspectives of the present. [Lowenthal 1979:125]

In the United States, historical study is an enterprise primarily undertaken by and for the dominant national Anglo-American community. Within this cultural milieu, relationships with the past tend to be cast in terms and through actions that, in many ways, still exhibit aspects of the antihistorical bias that drew much criticism during the 1970s and 1980s in Americanist archaeology (e.g., Trigger 1978, 1989:312–319; Wolf 1982; see also Knapp 1996:141).

To understand the conceptual underpinnings of the pervasive antihistorical view of the past within Anglo-American culture, fuller diagnosis of the obstacles that we confront in expanding the participation of traditional and historical communities in our landscape management endeavors is needed. Managers then can draw from this knowledge to devise new ways of interacting with these constituencies that promotes increasingly meaningful collaborations. By engaging people from traditional communities as respected partners, whose way of knowing past landscapes can enhance scientific understandings, managers can take steps to ensure the relevance of their policies and guidelines to a community that is greater than themselves (after Echo-Hawk 2000). More importantly still, managers can use this information within their own communities to help facilitate the cross-cultural understanding that history is a dynamic process that all people value, interact with, and build upon as they live in the present and prepare for the future.

Jackson used the phrase "the necessity for ruins" for titles of both a collection of thoughtful articles and an exposition examining the national Anglo-American community's penchant of using archaeological and other documentary evidence to construct historical

environments as monuments. The preservation of such monuments is based on what they are perceived to be—"reminders of a bygone domestic existence and its environment" (1980:90). Talking about the ubiquity of consciously constructed historical environments across the United States, Jackson adds,

> There are examples which are in fact cultural achievements, contribution to our national heritage, and even the simplest of the [constructed] historical environments often betrays a respect for our past... The best explanation I can find for the nation-wide popularity of these environments is that they appeal to a radically new concept of history and of the meaning of history, and that they represent a radically new concept of monument. [1980:91]

Traditionally, monuments were objects that were supposed to remind people of something important. Monuments were erected or defined "to put people in mind of some obligation that they have incurred: a great public figure, a great public event, a great public declaration which the group had pledged itself to honor" (Jackson 1980:91). Jackson (1980:93) argues that Anglo-American monuments were intended to fulfill advisory functions, restate sacred covenants, and serve to confer a kind of immortality upon those people who have gone before. Monuments were built to remind citizenry of commitments that they, as a society, should carry into the future. The idea of the constructed historical environment, on the other hand, is no longer a reminder of a past obligation or a plan of appropriate conduct for the future. Its purpose more or less is to offer an explanation of a past event (Jackson 1980:93). He adds,

> I think this kind of monument is celebrating a different past, not the past which history books describe, but a vernacular past, a golden age... of the way it *used to be*, history as the chronicle of everyday existence. [1980:95, italics in original]

Jackson maintains the way the Anglo-American community now creates historical environments as monuments suggests that society perceives a marked separation between the past and the present. The present no longer is viewed as "the continuation, the re-enactment of the past, modified of course by intervening events" (1980:98) whereby it can sustain its identity.

Instead, in fulfilling the Anglo-American public's expectations, the creation of historical environments as monuments

> suggests that the past is a remote, ill-defined period or environment when a kind of golden age prevailed, when society had an innocence and a simplicity that we have since lost;...a time without significant events, and a landscape without monuments. [Jackson 1980:98]

In this process, the contemporary Anglo-American conceptualization of the past commonly is expressed in romanticized terms.

According to Jackson, the Anglo-American community's motivation "to restore as much as possible the original aspect of the landscape" (1980:101) rests upon "the necessity for ruins." In contrast to land-based traditional and historical communities that explicitly locate their traditions within "the place that people talk about" (after Ortiz 1992:321–324), the Anglo-American community, in part, is creating a tradition that imposes itself into a romanticized construction of the "natural" (i.e., characteristically cast as the time before the arrival of Anglo-Americans) environment. Jackson explains:

> It seems clear that the whole preservation and restoration movement is much more than a means of promoting tourism or a sentimentalizing over an obscure part of the past—though it is also both of those things. We are learning to see it as a new (or recently rediscovered) interpretation of history. It sees history not as a continuity but as a dramatic discontinuity, a kind of cosmic drama. First there is that golden age, the time of harmonious beginnings. Then ensues a period when the old days are forgotten and the golden age falls into neglect. Finally comes a time when we rediscover and seek to restore the world around us to something like its former beauty.
>
> But there has to be that interval of neglect, there has to be that discontinuity; it is religiously and artistically essential. That is what I mean when I refer to the necessity for ruins: ruins provide the incentive for restoration, and for a return to origins. There has to be (in our new concept of history) an interim of death or rejections before there can be renewal or reform. The old order has to die

> before there can be a born-again landscape... That is how we reproduce the cosmic scheme and correct history. [1980:101–102]

While all cultures are highly selective in their definition of sanctified monuments within their landscapes (after Jackson 1980), the qualitative properties of the relationship through which community members identify and interact with their sanctified places can vary along a continuum between communalism and individualism. The sanctity of landscape symbols is communicated variously through subjective and objective criteria and knowledge. In Anglo-American society, the community at large deliberately selects certain objective products of history, such as battlefields, buildings and archaeological sites, as the bases for its constructed historical environments to provide its members with highly individualistic experiences with the past (see Roberts 1997). By placing great emphasis on material objects in constructing its historical landscapes and imbuing them with meaning for individuals to experience, the Anglo-American community often changes the physical properties of its constructed historical environments into scenes that other communities perceive as unreal and disrespectful to their sense of place and tradition (Jackson 1980:102). In so doing, the Anglo-American community's constructed historical environments become

> places where we can briefly relive the golden age and be purged of historical guilt. The past is brought back in all its richness. There is no lesson to learn, no covenant to honor; we are charmed into a state of innocence and become part of the environment. History ceases to exist. [Jackson 1980:102]

Summary and Conclusions

This review provides valuable context for framing what people talked about concerning the management of the VCNP and the greater Jemez Mountains in subsequent chapters (Chapters 5-18). People's perceptions, values, and attitudes are characteristically conditioned by their common sense beliefs, which individuals generally share with others in their cultural communities, or at least with persons who are members of particular social groups within their communities. These cultural constructions are highly meaningful, richly textured, and patterned. Relying on these systems of common sense belief as an indubitable source of truthful knowledge

of their everyday world, people not only describe the essence of the things that they experience, they assess them and imbue them with meaning to construct the reality of their world.

The corpus of conceptualized cultural-historical experiences shared among its social groups largely constitute a community's world view (after Tuan 1974:4). Relevant to the present discussion is the fact that a community's world view is defined in terms of the prominent characteristics and patterns of its social and physical environments (after Tuan 1974:79). Additionally, people's perceptions, values, and attitudes toward the management of the VCNP and the Jemez Mountains are shaped, in part, by how they view nature, and the structure and scope of the relationship between humans and nature. A critical issue is whether people tend to consider themselves either as a part of—or as separate from—nature.

With nature providing the stage and culture providing the economic, social, political and ideational tools, nature and culture may be viewed, not in opposition, but in complementary relationship as communities create and sustain unique senses of place and time. Although the people of contrasting cultural communities might express their respective relationships with nature differently, examination of the nature-culture dialectic though a landscape approach shows that diverse ideas of nature and culture actually share a common fundamental idea. The landscape is where nature and culture come together to give people a sense of home across the dimensions of space and time. Moreover, the landscape, on balance, is where people live, raise families, work, and die. Truly, the *landscape is home* for all people.

The landscape concept allows examination and comparison of the cognitive frameworks upon which people depend to structure and motivate opinions about land management. In this task, careful and respectful consideration of the bodies of vernacular knowledge, which may be maintained by different stakeholder communities in the guise of age-old cultural traditions, is essential. Virginia D. Nazarea, recognizes, "The landscape, or what's out there, is processed through human perception, cognition, and decision making before a plan or strategy is formulated and an individual or collective action is executed" (1999:91). Also important in studying landscapes are "the complex ways in which places anchor lives in social formations ranging widely in geographical location, in economic and political scale, and in the accompanying realms of gender, race, class, and ethnicity" (Feld and Basso 1996:7). Nazarea concludes, "Landscape, then, deals with every aspect of resource management that underlies a

"people's sense of place—the lenses through which they construct the environment and estimate their latitudes of choice and opportunities for challenge and refutation" (1999:105).

Even if managers adopt landscape approaches, the tendency of people to compartmentalize nature and culture fuels the illusion that landscapes are similarly segmented. The specific danger for managers is embracing the false belief that activities in areas, which are viewed as less pristine in nature, will not affect those settings considered as more unspoiled in nature (Anderson 2005:120). Additionally, the diversity of vernacular views about what landscapes are highlights the need for an understanding of the interaction of nature and culture as a system of dynamic cultural-historical processes rather than a fixed position, which focuses on particular resources (after Melnick 1996:29, citing Bahre 1991). The potential for problems is exacerbated when resources are narrowly quantified and/or classified into isolated and rigid categories (Melnick 1996:32).

Although the challenge to managers to establish a higher-level comprehension of the interdependency of nature and culture is large, landscape approaches are appropriate because they facilitate recognition of common attributes and a framework for placing differences into appropriate contexts. As Tuan has observed, "[p]eople everywhere tend" (1974:27) to conceptualize the structure their landscapes with reference to their community as occupying the center. If managers accept that the self-centeredness of cultural communities is a shared characteristic cross-culturally, then they have a stable reference point for evaluating how people talk and value about places and features within their landscapes to create and sustain a sense of meaningful orientation. They might understand that diversity arises because each cultural community perceives and knows its world through the traditions, heritage, and history of its people (Anschuetz et al. 2001; Evans et al. 2001). By integrating these anthropological perspectives into their frames of reference, managers might also be equipped to comprehend why cultural relativism, which is "the argument that the behavior in a particular culture should not be evaluated using the standards of another" (Kottak 1987:209), is appropriate in developing and implementing more respectful management policies.

The ideas of topophilia and *querencia* represent essential tools that managers can use to comprehend the affective bonds, which stakeholders maintain with places and settings in the Jemez Mountains, including the VCNP. Topophilia and *querencia* are relevant because

stakeholders' relationships with their landscapes can comprise more than functional attachments to features and conditions that support specific goals or desired activities. Rather, stakeholders' relationships might embody deeply invested emotional and symbolic attachments to places, which are important to a particular community's sense of identity (after McSweeney 1995; McSweeney and Raish 2012; Turbeville 2006), if not also the stewardship obligations that some traditional and historic community groups might feel for their homeland.

One benefit that the formal inclusion of topophilia and *querencia* concepts into a management process based on a landscape approach is that they provide a framework with which managers can apply the concepts of *wilderness*, *nature*, *natural*, and *untrammeled* in ways that comply with Zahniser's intent in authoring the Wilderness Act of 1964 (United States Public Law 88-577, 1998). For example, the incorporation of stewardship obligations embedded within constructions of topophilia and *querencia* (see Chapter 14) characteristically held by the region's traditional and historic communities are germane to the management of the VCNP and the surrounding Jemez Mountains. The application of these concepts can enhance managers' abilities to grasp that traditional and historic community stakeholders have long fulfilled Zahniser's resolve to cast people in the role of restrained "guardians" in wilderness management 1963:2, in Landres 2010:91; also, see Fincher 2012:152). Moreover, it is worth remembering that "native," "aboriginal," "indigenous," and "endemic" are all synonyms of the word *natural* (Landres et al. 2000:377).

The inclusion of topophilia and *querencia* concepts into management processes has the potential to yield three additional benefits. The first is that use of these concepts might reduce the risk of ignoring that some lands, which have either already received wilderness designations or are being considered as wilderness areas were profoundly shaped by past peoples. The second is that the formal integration of topophilia and *querencia* ideas in management frameworks might contribute to the discussion of what constitutes the appropriate access to—and use of—so-called wilderness lands. The third benefit is that use of these concepts might add to dialogue about what constitutes the appropriate access to—and use of—wilderness lands.

The fact that landscapes are cultural-historical constructs in which the passing of time is traced and remembered underscores the preceding findings. It also highlights the need for land managers to take into account that there exist two fundamentally different conceptualizations of

landscape history: (1) *landscapes of memory* in which the past exists in terms of enduring images inscribed on the land as a done deal that is not to be repeated; and (2) *landscapes as memory* in which the past is a referent for the present and the landscape constitutes living memory essential for sustaining community identity (Küchler 1993; see also Anyon et al. 1997; Morphy 1993).

These fundamentally different conceptualizations of landscape history have profound implications for how managers devise land management policies and implement guidelines. For example, following the work of Paul H. Gobster and others (2007), managers need to consider that their decisions might privilege one community's quantitative and qualitative understandings of what defines an authentic landscape, a momentous time period, and adverse effects that would degrade a landscape's integrity over those of others. It also bears repeating that managers need to be aware of the potential for inherent bias might arise because: (1) their environmental may embody perceptions, values, and attitudes are different from those of their traditional and historic community constituents, and (2) current environmental science, policy, and regulation generally lacks the scope and mechanisms to recognize, document, evaluate, and protect traditional and historical values foreign to the manager's own cognized experiences (after Hull et al. 2003:11).

Antihistorical predispositions that still persist widely within the greater Anglo-American cultural community perhaps represent some of the greatest challenges to the development of land management policies and actions that are broadly relevant among—and respectful of—culturally diverse stakeholders. Because neither environmental nor cultural-historical facts speak for themselves, active collaboration of managers with members of traditional and historic communities in management processes not only can be productive, it is essential (after Ransom and Ettenger 2001).

Efforts by federal and state managers to reconstruct some historical environment to preserve or explain past conditions or events not only emphasizes the separation between the past and the present. Such policies and guidelines impose managers and their agencies into a romanticized construction of the "natural" environment before the arrival of Anglo-Americans (after Jackson 1980).

Two additional points about the relationship between memory of the past and the scope and structure of management merit mention. First, managers' application of the wilderness concept is principally an exercise in collective memory, in which the participants in management enterprises recall some aspect of the past in relative isolation. Importantly, too, collective memory is founded neither on prior identity or place (Casey 2004). In the present instance, collective memory focuses on—and primarily values—a particular abstract idea: *wilderness preservation*. There is no requirement for the participants in the wilderness preservation exercise to possess intimate knowledge of the natural and cultural environments that make up the landscape in question. That is, place and the practical implications, which a wilderness designation may have on age-old relationships that other people outside the collective, are lesser concerns. Moreover, the idea, upon which the constructed memory is based, is comparatively rigid.

Second, participatory management, in which diverse stakeholders are active and respected participants in management processes, constitutes a celebration of public memory within the landscape. In contrast to collective memory, public memory commemorates history in place, not an abstract idea. Also, rather imposing compliance with a rigid abstract idea, public memory is an active resource. Members of the public may modify these memories in social and political discourse to maintain their relevance even as societal frames of reference, attitudes, and values undergo alteration (after Casey 2004). In the present instance of land management, public memory can communicate an appearance of relative constancy by invoking cherished landscape traditions.

Neither natural environments nor traditional and historical communities are pickles that require preservation such that future generations will know (but not be a part) of them. What people talk about with regard to the management of their landscapes often refers to a world that is both timeless and much bigger than themselves. Their commentaries may simultaneously honor the past and invoke the responsibilities that the people feel obliged to carry into the future such that subsequent generations might also benefit from knowing and living their heritage. A landscape approach is a powerful tool for developing and implementing relevant and respectful management policies; however, it mandates subscription to a perspective that recognizes, accepts, and values cultural diversity.

CHAPTER 3
METHODS AND PROCEDURES

Developing an appropriate framework for implementing this anthropological study of people's preferences, values, and attitudes for use, access, and fire and fire fuels management in the VCNP and the surrounding Jemez Mountains was a key undertaking during the early part of this effort. Development of this framework, which was begun in the fall of 2007 following the authorization of Phase I of the project (Chapter 1), is based on background research on forest and wildfire ecology, public perceptions of wildfire, and fire and fuels management on lands making up the VCNP and the adjoining Jemez Mountains.

Not only did this framework serve as the foundation for designing, conducting, and evaluating the participant interviews, it provides the principal basis for integrating the research findings obtained during the project's three phases (see below). Among the published resources reviewed, a number were particularly useful, including Baisan and Swetnam (1997), Cronon (1995b), Daniel and others (2007), Martin and others (2008), Touchan and Swetnam (1995), Vale (2002), Winter and Cvetkovich (2003), and Wuernthner 2006). Because they highlighted relevant research topics, these reference materials were influential as work progressed to develop an Interview Instrument that would solicit qualitative information amenable to anthropological evaluation. In addition to assisting in the design of the base Interview Instrument, these readings proved helpful in guiding our thinking during the development of protocols for identifying interview candidates. These background materials also made clear the importance of the design of the Interview Instrument.

Our purpose was not to undertake a rigidly crafted sociological survey consisting of a set of standardized questions and a choice of narrowly defined responses. Instead, as anthropologists, Dr. Carol B. Raish and I were interested in examining how a participant's familiarity with forest and fire ecology conditioned their views on fire and fire fuels management

within the study area. Our purpose was to obtain information about the degree to which individual participants ascribe to the view that the contemporary vegetation, wildlife, soil, and water flow patterns characteristics of the VCNP and the adjoining areas of the Jemez Mountains are largely the result of natural or cultural processes. Raish and I, however, felt that we needed to be prepared to guide dialogue, at least in a general sense, to ensure the solicitation of essential background information. The Interview Instrument, therefore, needed to structure the interview process to solicit specific kinds of information concerning participants' perceptions of the degree of overlap between the realms of nature and culture that inform their understandings of two principal topics. The first concerns the degree to which a person considers the VCNP and surrounding areas of the Jemez Mountains to constitute pristine or humanized landscapes. The second issue relates to the thresholds beyond which people's activities, including fire management, ranching, logging, and recreational activities, endanger the qualities, which they perceive—and value—as these landscapes' defining characteristics.

An appropriate strategy for eliciting this kind information about personal perceptions and values required the interviews to establish each participant's sense of place for the study area. A respondent's *sense of place* is relevant to this exercise because it represents the lens with which people perceive their environment and upon which they base their feelings about why a place is meaningful and unique (after Tuan 1977; see also Chapter 2). These perceptions and values, in turn, foster emotions of attachment and belonging (after Relph 1976). They also provide context, which we could use to identify and assess a respondent's environmental ethics. The views, preferences, and attitudes, which inform an individual's *place ethic*, are important because they provide insight into each participant's understandings of "appropriate" versus "inappropriate" approaches managing use, access, and fire and fire fuels in the study area.

The Interview Instrument needed to be more than simply sensitive to the participants' sense of place. It also required that the interviews give attention to fact that each participant's opinions of use, access, and fire and fire fuels management are grounded in their broader perceptions of environmental relationship and process. We realized that to comprehend a participant's *place ethic*, the Interview Instrument needed to solicit information about why interviewees either believe that a "hands-off" approach or the implementation of a "hands-on"

program for managing use, access, fire and fire fuels will best yield the results that they ideally wish to see and experience in the VCNP and the neighboring mountainous settings.

The Interview Instrument, therefore, required attention to the development of a structure that guided participants to talk about what they perceive to be the *intrinsic* and *instrumental* values of nature (after Proctor 1995). Intrinsic values are those that recognize worth independent of some utilitarian purpose. Instrumental values are those that assign worth based on the ability of some characteristic, or activity associated with a particular characteristic, to serve a useful purpose (Proctor 1996:281).

While the intangible idea of *goodness* is a common characteristic of intrinsic values, instrumental values are often pragmatic assessments of particular conditions and commodities. Through this exercise, the Interview Instrument channeled the collection of information in a way that moves beyond a participant's *place ethic* to encompass their *wilderness ethic.* Wilderness ethnic, it should be noted, refers to how people express their feelings about what constitutes wilderness and their view of the appropriate scope (if any) of interaction between people and wilderness (e.g., see essays in Cronon 1995b). The Interview Instrument simultaneously also gave each participant latitude to address the issues with they were most familiar and considered most important. The copy of the Interview Instrument is provided in Appendix I.

The identification of possible candidates as study participants was accomplished through a combination of means. First-hand knowledge of potential interviews candidates by Anschuetz and Raish was important throughout all three phases of the project. Depending on whether they had existing relationships with possible candidates, Anschuetz and Raish used a combination of formal letters, emails, and telephone calls to introduce the project. Through these efforts, the investigators were careful to make clear that Anschuetz was the principle investigator and a hired private consultant in an undertaking funded by the USFS Rocky Mountain Research Station and the VCNP (Chapter 1). Additionally, Anschuetz handled all mailings using his business letterhead rather than using USDA Forest Service Rocky Mountain Research Station stationary. With regard to Native American Tribes, letters of introduction to tribal leaders, other relevant officials, and key agents included the explicit statements that:

- The project does not constitute a government-to-government consultation between the USFS, the VCNP, or any other entity.
- This work will not be used as the basis for developing new policy in lieu of government-to-government consultation, although the study's findings may be used by managers to implement existing policy.
- Information obtained during interviews with tribal members possesses the potential to increase awareness of the need for formal government-to-government consultations on issues raised during this research. [see Appendix II for a copy of the letter template; see also below]

During Phase I, Ms. Hedy Dunn, Museum Director, Los Alamos Historical Society, Los Alamos, and Dr. Anastasia Steffen, Cultural Resources Coordinator, VCNP, offered helpful suggestions, contact information for a number of prospective candidates, and facilitated introductions. Dr. Tessie Naranjo and Ms. Rina Swentzell, both of whom are members of the Pueblo of Santa Clara, and Mr. Tim Coughlin, a resident of Jemez Springs, several other people who ultimately agreed to participate in Phases II and III of the study, respectively. Mr. J. Michael Bremer, Forest Archeologist, SFNF, Santa Fe, and Ms. Anne Baldwin, District Archeologist, Espanola Ranger District, SFNF, Espanola, similarly provided valuable guidance and contract information during Phase III. Lastly, persons who participated in the project were also a source of recommendations of other persons who might be interested in learning more about the study. In some instances, project participants even volunteered to talk with their contacts and facilitate introductions.

Our principal criterion in selecting persons to interview was that each candidate possessed useful knowledge and insights of the VCNP and/or the surrounding Jemez Mountains through a history of interaction and on-hands experience with this landscape and its resources. We welcomed ardent hikers and fly-fishing enthusiasts whose relationships with the study area are motivated by purely personal reasons, just as much as we sought ranchers, educators, and certified tour operators whose connections with the study area might include economic and/or professional interests.

The project consisted of three interview phases, each of which received funding separately (Chapter 1). Phase I was initiated in the autumn of 2007 and consisted of two parts.

The first was the background research on forest and wildfire ecology, public perceptions of wildfire, and fire and fuels management to develop the Interview Instrument mentioned above. The second part of Phase I consisted of the identification, recruitment, and interview of knowledgeable study candidates. Interviews were ultimately conducted with 19 individuals, all of whom but 1 were residents of Anglo-American communities, between the spring of 2008 and the spring of 2009.

Phase II, which was undertaken with the explicit purpose to enlist participants from the region's Native American communities, began in the fall of 2010 with the mailing of 91 letters of introduction (Appendix II) to the 21 communities that maintain close affiliations with the Jemez Mountains (Table 2).[24] Anschuetz and Raish prepared these letters in consultation with Mr. Dan Meza, Tribal Relations Program Manager, USDA Forest Service, Southwestern Region, Albuquerque, and mailed the announcements only after Meza had reviewed the document in its final version.

The recruitment of prospective interview candidates willing to participate in these proceedings proved difficult, with only one community, the Pueblo of Zia, responding to the introductory letter directly via an authorized tribal representative (Mr. Peter Pino, Tribal Administrator). Anschuetz then began contacting associates for referrals to residents of the area's Tribal communities who might be interested in participating in the project as private individuals, who represented nobody but themselves. Anschuetz followed up with letters, email messages, and/or telephone calls to prospective candidates, depending on whether he had a prior relationship with the individual. Anschuetz and Raish completed six interviews were between late 2011 and the summer of 2012.

Phase III, whose purpose was to recruit people from the Jemez Mountains' Hispanic communities ran concurrently with Phase II and proved equally difficult, with area Hispanic

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[24] The principal leaders (Chairman, Governor, or President) of the 21 Affiliated Tribes listed in Table 2 received originals of these letters. Other relevant officials and directors of certain departments, such as the Tribal Historic Preservation, Office of Cultural Preservation, and Division of Resource Management and Protection, received carbon copies of the letter sent to their respective Chairman, Governor, or President (n=70 copies).

Table 2. Contacted Affiliated Tribes (n=21).*

Jicarilla Apache Nation

Mescalero Apache Tribe

Navajo Nation

Ohkay Owingeh

Pueblo of Cochiti

Pueblo of Isleta

Pueblo of Jemez

Pueblo of Nambe

Pueblo of Picuris

Pueblo of Pojoaque

Pueblo of San Felipe

Pueblo of San Ildefonso

Pueblo of Sandia

Pueblo of Santa Ana

Pueblo of Santa Clara

Pueblo of Santo Domingo (now known as Kewa)

Pueblo of Taos

Pueblo of Tesuque

Pueblo of Zia

Pueblo of Zuni

The Hopi Tribe

Note:

* This list was developed in consultation with Mr. Dan Meza, Tribal Relations Program Manager, USDA Forest Service, Southwestern Region, Albuquerque.

residents expressing an unwillingness to participate in the interviews. Many of the people contacted shared deep suspicions of the USFS. Prospective candidates commonly expressed deep concerns that their relationships with the USFS, which they perceived as already tenuous at best, might become even more strained if they freely shared their heartfelt opinions about the agency's management of SFNF lands in the Jemez Mountains. The steps that Anschuetz and Raish pledged to take to assure anonymity were insufficient to satisfy people's concerns. Anschuetz and Raish completed seven interviews the spring and late fall of 2011.

Working from the pools of people who responded to the initial project introductions with interest, Anschuetz and Raish took the next step of evaluating each candidate's potential contributions to the study. In cases where neither Raish nor Anschuetz were personally familiar with a possible candidate, they (often as a team, although sometimes individually) tried to arrange a pre-interview discussion. These meetings usually lasted between one and two hours.

The purpose of these discussions was, in part, to give potential participants a fuller understanding of the project's goals and methods and anticipated use of the information that they shared. Each participant received a copy of the Interview Instrument at this time for their review during the meeting, as well as at their leisure later at home. Anschuetz and Raish went over the prospective participant's privileges, including their right to review the interview documentation and use of their contributions in project reports. They identified further that each participant would receive a $250.00 honorarium, or other consideration,[25] in acknowledgement of the time and expertise they shared in contributing to the project.

A second function of these initial meetings was to solicit information with which Anschuetz and Raish could evaluate a candidate's appropriateness as a study participant and an idea of the topics with which an individual was most familiar and comfortable. Besides comprising an opportunity for exchanging information relevant to project implementation, these initial interviews also gave prospective candidates and the interviewers an opportunity to

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[25] Some participants either could not or would not accept an honorarium. In these circumstances, arrangements were made to donate $250.00 to a cause of their choice in the participant's name.

establish a degree of personal familiarity and relationship. Because these meetings often contributed to the ease and flow of the subsequent formal interview discussions.

Of the more than five dozen persons and organizations that Anschuetz and Raish contacted, they secured the commitment of 33 individuals to participate in total of 32 interviews.[26] In addition, the proceeds of an earlier interview with Mr. Timothy Johnson, which Raish and Mr. Thomas Merlan, Consulting Historian, Santa Fe, conducted on January 19, 2007, were incorporated into the current effort.[27] The list of the participants, their affiliation(s), major interests in the Jemez Mountains and the VCNP, and the technical details of the interviews are summarized in Table 3.

Counting the discussion with Ms. Carrillo and her husband as 1 meeting, the 32 interviews conducted by Anschuetz and Raish followed certain formalities. The additional Johnson interview held by Merlan and Raish followed essentially the same formalities; however, it had a narrower topic orientation, focusing entirely on ranching and ranching history.

First, Anschuetz and Raish again reviewed the scope and goals of the study, including the use of the Interview Instrument as a general guideline, with the study participant. Anschuetz and Raish also gave the contributor another copy of the Interview Instrument (if they did not have the copy for the initial meeting in the possession) for reference during the following conversation. They next reviewed the Interview Consent Form (Appendix III). This certificate formally documents a person's agreement to participate in the study and specifies the level to which they approve for their comments to be documented at the time of interview, transcribed, and subsequently used in the project's progress and final reports, or any other product related to the project.

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[26] Dr. Charles M. Carrillo sat in—and contributed substantively to—the interview of his wife, Ms. Debbie Barbara Carrillo.

[27] Raish and Merlan had conducted the Johnson interview in advance of the present undertaking as part of a pilot study to assess the kinds of information that might reasonably be considered when interviewing individuals interested in ranching on the Preserve.

Table 3. List of Study Participants and Interviews.

Phase I (n=20)

Name	Affiliation(s) at Time of Interview	Major Interests in the Jemez Mountains and the VCNP*	Digital Voice Recorder File (Run Time)	Audio Tape Recording	Pre-Interview Discussion	Interview Date
Dr. Craig D. Allen	USGS Jemez Mountains Field Station, Los Alamos, NM	Forest ecology, fire ecology, education	WS310078 (0:55:43) WS310079 (2:46:23)	Yes	None	11/3/08
Mr. Anthony Armijo	Tribal Administration, Pueblo of Jemez, NM	Ranching, culture history, cultural heritage	WS310081 (0:50:23) WS310082 (1:20:56) WS310083 (0:08:15)	Yes	None	11/19/08
Mr. William Armstrong	USDA Forest Service, Santa Fe National Forest, Santa Fe, NM	Forest ecology, fire ecology, education	WS310063 (1:42:07) WS310064 (0:19:20) WS310065 (1:04:16)	Yes	8/29/08	10/23/08
Mr. Robert Dryja	Pajarito Environmental Education Center, Los Alamos, NM	Education, forest ecology, trails	WS310001 (2:21:23)	Yes	8/8/08	9/13/08
Dr. Richard I. Ford	Arthur F. Thurnau Professor Emeritus, University of Michigan, Santa Fe, NM	Education, culture history, cultural heritage, recreation (fly fishing)	WS310080 (3:08:36)		None	11/18/08
Ms. Teralene S. Foxx	Pajarito Environmental Education Center, Los Alamos, NM	Forest ecology, education	WS310052 (1:27:00) WS310053 (1:31:43)	Yes	8/21/08	9/8/08

Table 3. List of Study Participants and Interviews (cont'd.).

Phase I (cont'd.)

Name	Affiliation(s) at Time of Interview	Major Interests in the Jemez Mountains and the VCNP*	Digital Voice Recorder File (Run Time)	Audio Tape Recording	Pre-Interview Discussion	Interview Date
Ms. Dorothy Hoard	Pajarito Environmental Education Center, Los Alamos, NM	Forest ecology, education, trails, recreation (hiking), history	WS310043 (1:09:42) WS310044 (0:08:45) WS310045 (1:36:49)	Yes	5/8/08	8/26/08
Mr. John T. Hogan	USGS Jemez Mountains Field Station, Los Alamos, NM, Pajarito Environmental Education Center, Los Alamos, NM, and Volunteer Task Force, Los Alamos, NM	Forest ecology, education, trails	WS310061 (1:26:10) WS310062 (1:43:29)	Yes	None	10/10/08
Dr. Thomas Jervis	Audubon Society, Santa Fe, NM	Forest ecology, education, recreation (hiking)	WS310057 (1:10:44) WS310058 (2:11:10)	Yes	8/25/08	9/23/08
Mr. Timothy Johnson	Private, Cuba, NM	Ranching	None	None	None	1/19/07
Ms. L.C. ("Chris") Judson	USDI Bandelier National Monument, Los Alamos, NM	Education, recreation (hiking)	WS310076 (1:25:13) WS310077 (1:22:11)	Yes	8/21/08	11/3/08
Dr. Charles ("Chick") Keller	Pajarito Environmental Education Center, Los Alamos, NM	Forest ecology, fire behavior, education, recreation (hiking and bird watching)	WS310048 (1:16:36) WS310049 (0:27:55) WS310050 (0:45:32) WS310051 (0:25:29)	Yes	9/8/09	9/8/08

Table 3. List of Study Participants and Interviews (cont'd.)

Phase I (cont'd.)

Name	Affiliation(s) at Time of Interview	Major Interests in the Jemez Mountains and the VCNP*	Digital Voice Recorder File (Run Time)	Audio Tape Recording	Pre-Interview Discussion	Interview Date
Mr. Gregory J. Kendall	Los Amigos de los Valles Caldera, Los Alamos, NM	Recreation (mountain biking, hiking, and cross country skiing)	WS310069 (0:22:45)	Yes	9/3/08	10/28/08
			WS310070 (0:00:46)			
			WS310071 (0:54:14)			
			WS310072 (1:46:51)			
Mr. Craig Martin	Open Space and Trails, Los Alamos County, Los Alamos, NM, and Volunteer Task Force, Los Alamos, NM	Forest ecology, fire ecology, education, trails history, recreation (hiking and fly fishing)	Technical issues prevented digital recording.	Yes (approx. 0:50:00)	5/8/08	8/21/08
			WS310041 (0:50:01)	Yes		
			WS310042 (0:50:18)			
Mr. Art Morrison	USDA Forest Service, Southwestern Region, Albuquerque, NM	Forest ecology, fire ecology, recreation (hunting, fly fishing, and cross country skiing)	WS310085 (1:33:24)	Yes	None	3/12/09
			WS310086 (0:53:14)			
Mr. Gary Morton	Private, Las Vegas, NM	Ranching, recreation (art)	WS310087 (2:32:24)	Yes	None	4/17/09
Mr. Tom Ribe	Caldera Action, Santa Fe, NM	Forest ecology, fire ecology, recreation (hiking), tourism	WS310046 (1:21:28)	Yes	5/8/08	9/9/08
			WS310047 (1:27:25)			

Table 3. List of Study Participants and Interviews (cont'd.)

Phase I (cont'd.)

Name	Affiliation(s) at Time of Interview	Major Interests in the Jemez Mountains and the VCNP*	Digital Voice Recorder File (Run Time)	Audio Tape Recording	Pre-Interview Discussion	Interview Date
Ms. Georgia W. Strickfaden	Buffalo Tours, Los Alamos, NM	Recreation (hiking), tourism	WS310054 (0:11:05) WS310055 (1:00:23) WS310056 (1:41:35)	Yes	8/21/08	9/13/08
Mr. Don Usner	Ventana de la Luz Photography, Santa Fe, NM, and New Mexico Community Foundation, Santa Fe, NM	Forest ecology, fire ecology, education, recreation (hiking and art)	WS310059 (1:25:51) WS310060 (1:27:25)	Yes	8/25/08	9/30/08
Ms. Branden Willman-Kozimor	Pajarito Environmental Education Center, Los Alamos, NM	Education, forest ecology, fire ecology, recreation (hiking, fly fishing, cross country skiing)	WS310066 (1:33:59) WS310067 (1:27:10)	No No	9/3/08	10/28/08

Phase II (n=6)

Name	Affiliation(s) at Time of Interview	Major Interests in the Jemez Mountains and the VCNP*	Digital Voice Recorder File (Run Time)	Audio Tape Recording	Pre-Interview Discussion	Interview Date
Dr. Gregory A. Cajete	Director, Native American Studies Program, and American Indian Education Specialist, Literacy and Social Cultural Studies Department, University of New Mexico, Albuquerque, NM	Cultural heritage, culture-history, education, ecology	WS310128 (02:32:14	No**	7/13/12	7/26/12

Table 3. List of Study Participants and Interviews (cont'd.)

Phase II (cont'd.)

Name	Affiliation(s) at Time of Interview	Major Interests in the Jemez Mountains and the VCNP*	Digital Voice Recorder File (Run Time)	Audio Tape Recording	Pre-Interview Discussion	Interview Date
Mr. Louie Hena	Member, Pueblo of Tesuque, NM	Cultural heritage, culture history, farmer, permaculturalist, environmentalist, recreation (hunting, fishing, hiking)	WS310105 (03:45:25)	No**	4/8/11	5/13/11
Mr. Joseph Anthony Moquino	Member, Pueblo of Tesuque, NM	Cultural heritage, culture history	WS310106 (02:27:44)	No**	12/17/10	5/12/11
Dr. Tito Naranjo	Member, Pueblo of Santa Clara, NM	Cultural heritage, culture history, education, recreation (hunting, fishing, hiking)	WS310121 (01:13:03)	No**	11/8/11	11/28/11
			WS310122 (01:52:59)			
			WS310123 (00:31:00)			
Mr. Peter Pino	Tribal Administrator, Pueblo of Zia	Cultural heritage, culture history, water and resource management	WS 310113 (02:29:37	No**	2/2/11	10/14/11
			WS310114A (00:06:06)			
			WS310114B*** (00:03:02)			
			WS310115*** (02:00:45)			
			WS310116*** (00:39:50)			

Table 3. List of Study Participants and Interviews (cont'd.)

Phase II (cont'd.)

Name	Affiliation(s) at Time of Interview	Major Interests in the Jemez Mountains and the VCNP*	Digital Voice Recorder File (Run Time)	Audio Tape Recording	Pre-Interview Discussion	Interview Date
Mr. Porter Swentzell	Member, Pueblo of Santa Clara, NM	Cultural heritage, culture history, cultural landscape	WS310116 (03:15:55) WS310117 (00:18:48)	No**	11/8/11	11/15/11

Phase III (n=7)

Name	Affiliation(s) at Time of Interview	Major Interests in the Jemez Mountains and the VCNP*	Digital Voice Recorder File (Run Time)	Audio Tape Recording	Pre-Interview Discussion	Interview Date
Ms. Debbie Barbara Carrillo and Dr. Charles M. Carrillo	Private, Santa Fe, NM	Cultural heritage, culture history, history, cultural landscape	WS 310109 (02:16:37) WS310110 (00:42:16)	No**	8/8/11	8/29/11
Mr. Fred D. Lucero	Private, Cañon, NM	Ranching, resource management, recreation (hunting, fishing)	WS 310091 (02:38:51)	No**	4/11/11	4/19/11
Mr. Orlando Antonio Lucero	Private, Cañon, NM	Ranching, resource management, recreation (hunting, fishing)	WS310110 (00:38:54) WS310101 (01:40:06)	No**	4/6/11	4/20/11
Dr. Hilario Eugenio Romero	Professor, Educational Opportunity Center, Northern New Mexico College, Espanola, NM	Cultural heritage, culture history, history, education, fuel wood harvesting, recreation (fishing)	WS 310118 (03:36:10)	No**	11/8/11	11/21/11

Table 3. List of Study Participants and Interviews (cont'd.)

Phase III (cont'd.)

Name	Affiliation(s) at Time of Interview	Major Interests in the Jemez Mountains and the VCNP*	Digital Voice Recorder File (Run Time)	Audio Tape Recording	Pre-Interview Discussion	Interview Date
Mr. Gilbert Sandoval	Private, Abiquiu, NM	Timber management, recreation (fishing)	WS310098 (03:09:44)	No**	4/7/11	4/15/11
Mr. Roberto H. Valdez y Herrera	Private, Espanola, NM	Cultural heritage, culture history, history, traditional arts and crafts, ranching	WS310106 (02:22:50) 310107 (01:12:30)	No**	8/10/11	8/24/11
Mr. Fred Vigil	Private, Medanales, NM	Cultural heritage, culture history, ranching, recreation (hiking)	WS310117 (03:21:19)	No**	3/29/11	11/11/11

Notes:

* Each participant's major interests in the Jemez Mountains and the VCNP are identified and listed in relative order of emphasis in comments made given during the interview. This summary, therefore, should not be considered to be a comprehensive listing of each person's relationship with the study area.

** A second digital voice recorder was used in place of the original audio tape recorder.

*** These recordings were made on a second digital voice recorder as backups. Because of gusty wind conditions, the interview participants (Pino, Raish and Anschuetz) relocated several times, and used the two recorders variously. Additionally, because the two devices were placed differently, wind noise affected them differently; comments that were unintelligible in one recording usually were decipherable in another. Consequently, all six of the digital files were used to make the transcription of the interview, which ran approximately 3 hours and 8 minutes in length.

All participants in the 32 interviews conducted by Anschuetz and Raish, as well as the individual interviewed by Merlan and Raish earlier, gave their permission to be documented using a variety of media, including hand-written notes, audiotape recorders, and digital voice recorders. In addition, each of these contributors gave their permission to Anschuetz and Raish to transcribe their comments word-for-word, use excerpts of these transcripts in the project's progress and final reports, and identify them by name, subject to their review of draft documents. Anschuetz and Raish, in turn, committed to provide copies of all written notes and of all transcriptions of the audiotape and digital voice recorder information, draft reports for review, and the final report. Moreover, Anschuetz and Raish pledged that they will not use any records of the interview for purposes other than that related to the present project, *Use, Access, and Fire/Fuels Management Attitudes and Preferences of User Groups Concerning the Valles Caldera National Preserve (VCNP) and Adjacent Areas*, without permission.

Throughout this agreement process, each contributor has reserved the right to review his/her comments, and use of his/her comments throughout the process for appropriateness, accuracy, and completeness. Participants received electronic copies of their audio files, synoptic summaries of their interview (see Chapter 4), a synthetic narrative presenting the interview data, and the final project report.[28] If anyone determined that any of their comments were not appropriate for use in project products, or they found that any of their comments were misrepresented either in their transcription or the context of their use, Anschuetz incorporated these changes in the final draft. Similarly, if a contributor decided to clarify or expand upon any of their comments during the review process, Anschuetz similarly integrated their additional remarks into the discussion for this final report.

As noted previously, Anschuetz and Raish made a copy of the Interview Instrument available to collaborators either during the initial meeting and/or before the beginning of their

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[28] For ease in preparation, review, and editing, the draft synthetic presentation of the interview data was given to the participants in the form of a single manuscript. For the final report, this narrative has been broken into a series of chapters (Chapters 5–18) based on their major topic. Other than this reformatting, the inclusion of revisions and elaborations requested by contributors, and nominal editorial changes, the presentation of the interview information otherwise is the same.

formal interview. Although this document typically guided the scope and structure of the interviews in a general sense, it was neither used nor intended to be used as a restrictive device. Anschuetz and Raish encouraged project participants to follow their respective interests and comfort levels in sharing information and insights, which they believed the project should consider. If an individual considered one of the questions in the Interview Instrument to be either irrelevant or inappropriate to their areas of particular expertise, they were invited to pass on the topic or redefine the issue to their satisfaction. While several participants more or less adhered closely to the Interview Instrument, most focused their comments on their areas of knowledge or proficiency. A large proportion of participants exercised their option to recast their interview as an interactive dialogue.

Although the Phase II and III conversations used the same Interview Instrument as Phase I for guidance and continuity, the resulting dialogues were qualitatively quite different. As illustrated in their commentaries presented in the synoptic (Chapter 4) and synthetic presentations of their remarks by major topic (Chapters 5-18), members of traditional and historic Native American and Hispanic communities maintain different relationships with the VCNP and the Greater Jemez Mountains than their Anglo-American community resident counterparts (see also Chapter 19).

In general, whereas Anglo-American participants, most of whom live in either Los Alamos or Santa Fe, were highly responsive to the Interview Instrument's focus on forest ecology, fire and fire fuels management, and the administration of the VCNP landscape regarding what they perceived as the Valles Caldera's recreational and educational values. In comparison, residents of traditional and historic communities, which have long histories of dependence on the portions of the Jemez Mountains that formerly were principal sustaining areas, tended to emphasize topics related to the health and management of the forests.

In their discussions of the essential interdependency between the Jemez Mountains and their respective families and communities, traditional and historic community participants especially emphasized how their families and communities have constructed their cultural identities with reference to this mountainous landscape. Except for individuals living along the Jemez Valley in the central and south-central portions of the Jemez Mountains, the VCNP was comparatively less a material concern among the residents of traditional and historic

communities. For example, several participants from Native American and Hispanic communities on the Jemez Mountains' north and east flanks observed that the VCNP, although important in abstract senses within their conceptual constructions of their landscape, is simply too far removed geographically from their community centers to occupy a focal position in their day-to-day relationships with the Jemez Mountains.

Despite the fundamental qualitative differences in the information complied during interviews with people with markedly contrasting cultural and relationships with the VCNP and the Jemez Mountains, most of the people that Anschuetz and Raish interviewed[29] shared insights and perspectives, which reveal how they include the Valles Caldera in their mental landscape maps. Importantly, because it forms the heart of the Jemez Mountains, the Valles Caldera represents a focal place in the *edge* that imbues their *center* with orientation and meaningfulness.[30]

Although Anschuetz and Raish participated in the 32 interviews conducted during Phases I, II, and III of this project, Anschuetz had the primary responsibility of leading the interview. Raish, in turn, was largely responsible for taking notes. She also played an invaluable role in asking follow up questions and providing background information to interviewees.

Dr. David Flores, Research Social Scientist, USDA Forest Service Rocky Mountain Research Station, Albuquerque, sat in on Dr. Gregory Cajete's interview as an observer. Cajete had given his permission to Flores to witness the discussion in advance of the interview.

Anschuetz and Raish documented the 32 interviews that they conducted during this study using a combination of handwritten notes and a digital voice recorder (Olympus WS-311M, which creates .wma [Windows Audio Media] format digital files) (see Table 2 for an inventory of the digital voice recorder files and their respective run times). During Phase I, Anschuetz and

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[29] The interview that Merlan and Raish conducted with Timothy Johnson was limited in scope to issues related to ranching. Johnson neither directly nor indirectly expresses his views on the Valles Caldera as a cultural landscape in his remarks.

[30] See Chapter 2 for consideration of the indispensable complementarity between the concepts of *center* and *edge*.

Raish used an audiotape recorder (Optimus CTP-114, using 90-minute Type 1 cassette audiotapes) as a backup in case they experienced a technical malfunction with the digital voice recorder. Anschuetz brought a second digital voice recorder as a backup during the Phase II and III interviews.

Usually, only one set of recordings was ever needed for making transcriptions of the document. There were two exceptions, however. The first occurred when a technical mishap occurred during the first part of Mr. Craig Martin's Phase I interview. Consequently, the backup audio tape recording was required to transcribe selections from Martin's first 50 minutes of commentary. During Mr. Peter Pino's Phase II interview, wind noise rendered portions of the primary digital voice recording unusable. Because the backup digital voice recorder was placed slightly differently with respect to the prevailing wind patterns, it usually captured portions of the conversation obscured in the primary recording. Accordingly, the selective transcription of Mr. Pino's remarks depended on both sets of recordings.

Including the time used to set up the interview space, breaks, and final farewells each interview sessions lasted roughly 4 hours. Of this time, nearly 3 hours (ave. 2 hours and 59 minutes) of recorded information were collected. In total, these interviews yielded 95. 5 hours of documented conversation.

At the outset, Anschuetz and Raish intended to prepare a word-for-word transcription of each interview. Starting with the Craig Martin conversation, however, we realized that the enormity of this task would quickly deplete project resources. After finishing the Martin interview as a word-for-word transcription, Anschuetz and Raish reconsidered the effort and opted to prepare comprehensive written summaries of the interviews, which were supplemented with word-for-word transcriptions of notable remarks.

To facilitate the management and use of the interview information, each participant's comments, which could range in size from a short sentence to a long paragraph, were annotated with their time counter record to document the location of the summarized or transcribed passage within its respective digital file. Each entry first received a unique identification number within its respective interview sequence. In this way, except for the first part of the Martin interview and entire Johnson interview, individual comments and notable quotes may easily be relocated

within their audio files for review. Each comment subsequently received a unique identification number when the interview data were imported into the project's Microsoft Office 2003 (subsequently updated to Microsoft Office 2010) Access relational database via a Microsoft Office 2003 Excel worksheet).

Anschuetz coded each comment, by one or more applicable topics to facilitate sorting within the relational database using the topics and codes presented in Appendix IV. The codes developed for the Phase I interviews consist of a five-digit number, while the codes added to cover new topics introduced during the subsequent Phases II and III interviews consist of a six-digit number.

Merlin and Raish documented earlier Johnson interview using handwritten notes and an audiotape recorder (Optimus CTP-114, using 90-minute Type 1 cassette audiotapes). Raish made paper and digital copies of the written summary of this interview available o Anschuetz for inclusion in this study. Because only the parts of the interview relevant to the present study are included in the project records, the length of the recorded interview is unavailable.

Digital voice recorder files do not exist for either the first part of the Martin interview or the entire Johnson interview. Although these conversations were tape-recorded, the tape media lack reliably reproducible time counter records. The summarized and transcribed passages from these tapes, along with their corresponding interview topic number, were entered into Access relational database files.

The work to summarize the interviews and prepare word-for-word transcriptions of notable comments resulted in the entry of nearly 5,750 records in the relational database. The work to code the information contained in the interview records resulted in the assignment of 9,500 topic codes.

By following these procedures, each participant's comments were readily available for searching, sorting, and reclassification during the preparation of the synthetic presentation of the interview data (Chapters 5-18). In preparing the interview discussions, Anschuetz included the unique relational database identification number of key paraphrased or quoted comments to enable future investigators to relocate particular passages within the relational database and the original audio recordings. Anschuetz also made use of the relational database functions to

temporarily mark passages that he cited to minimize the potential for unintended duplication of particular comments as his writing progressed.

Copies of all master digital voice recordings (on Compact Disk), the Access interview relational database (on Compact Disk), the backup audio tapes made during the Phase I interviews, and paper interview records are curated at the USDA Forest Service Rocky Mountain Research Station, Albuquerque.

CHAPTER 4
SYNOPTIC INTERVIEW SUMMARIES

Dr. Craig D. Allen

Allen is a widely known and respected ecologist who works for the Jemez Mountains Field Station of the US Geological Survey maintained at the Bandelier National Monument. The Allen interview focuses on the topics of forest and fire ecology, including climate-induced forest diebacks and post-fire restoration, in the Jemez Mountains area. Given his personal and professional interests in developing a holistic understanding about how living systems function and change, Allen interweaves references to his observations about Jemez Mountain physiography, historical ecology and climate change, tree mortality, fire frequency, and patterns of post-fire erosion and forest succession throughout his discussion. More than just the study of the many tiers of relationship among the plants, animals, water, physiography, and climate of the Jemez Mountains, Allen also holds the view that the Jemez Mountains constitute a cultural landscape. This position shows that Allen explicitly acknowledges the essential presence and role of people within the ecosystem.

Citing the Valles' location in the heart of the Jemez Mountains, Allen maintains that all fire and fuels management efforts in the Jemez Mountains need to take the VCNP into account. Moreover, describing fire as an essential part of the ecosystem, he observes that fire—just as forests, wildlife and erosion—does not care about fence lines and political boundaries. Allen believes that the Preserve's forested boundaries are vulnerable to wildfires originating in the surrounding region. The ponderosa pine (*Pinus ponderosa*) forest in the Jemez Ranger District of the Santa Fe National Forest (SFNF) poses significant fire threats to the populated Jemez Valley area as whole, not just the VCNP.

The theme that environmental variability conditions wildfire behavior underscores Allen's specific remarks about fire and fuel management. Noting the Preserve's topographic and ecological diversity, including the presence of numerous forested volcanic domes separated by broad grassland expanses, Allen suggests that the VCNP possesses significant potential as a laboratory for acquiring the kinds of comprehensive knowledge about fire behavior needed for developing more effective fire and fuels management plans and actions across the West. In particular, the ecological diversity and physiographic isolation of the domes would allow for experimentation with different fire fuels management techniques with relatively little risk.

Speaking of his experience at the Bandelier National Monument, Allen emphasizes that the scientific contributions that can come from experimental programs can yield a greater understanding of related natural processes. By incorporating these data into the management process, planners can become better equipped to design and implement increasingly effective and more sustainable fire and fire fuels reduction programs. For example, Allen reports that available studies of the soil erosion following a reliance on livestock grazing to reduce ground-level fire fuels have given managers the information that they need to apply novel new fire management tools and strategies within the Monument. Allen discusses the use of chainsaws in federally designated wilderness areas as part of its piñon (*Pinus edulis*) and juniper (*Juniperus* spp.) restoration project to illustrate his remarks. This innovative program not only contributes to restoring the health of this woodland habitat, the design of the activities also helps reduce the damaging effects of soil erosion by restoring understory plant growth. Piñon-juniper woodland restoration has an additional benefit for holistic management concerns: the resulting reduction in erosion that accompanies habitat improvements simultaneously protects archaeological sites from further disturbance during the loss of top soil and other sediments.

Allen offers a number of specific recommendations for fire restoration. The most striking of his comments relates to the efficacy of reseeding programs following forest fires. Although he acknowledges the social and political expedience of seeding as part of publicly visible forest restoration activities following catastrophic wildfires, Allen characterizes this operation as a wasteful expenditure of resources. He also states that seeding can be damaging to ecology of recovering tracts because it often introduces large numbers of invasive plants.

Mr. Anthony Armijo

Armijo is a rancher and tribal administrator at the Pueblo of Jemez. He is also formally trained in natural resources management. Armijo's remarks about sustainable land-use practices draw upon this combination of personal and professional experiences. They include discussion of cattle grazing and fire fuels reduction measures within a comprehensive, integrated framework.

Armijo talks at length about his family's long history of ranching and the practical challenges and benefits of maintaining its current livestock operations during his interview. He notes that ranching not only provides material benefits, it helps build and maintain relationships among his family members. Armijo also describes the social and cultural benefits that ranching offers to his community as a whole. He states that ranching not only similarly builds relationships among community members. It also fosters the principle of land stewardship among the people.

Armijo emphasizes the potential benefits of use of the VCNP by local ranchers, including, but not limited to, cattlemen from the Pueblo of Jemez. He cites the Pueblo's need for a grass bank, which would allow his community's cattle operators to rest and renew their limited grazing land holdings at home.

Armijo talks about his community's relationship with the VCNP for ranching. When the Preserve announced the goal of running 500 mature cattle on its holdings in 2005 and 2006, it solicited the Pueblo to participate in its grazing program. Although nearly 50 Jemez families run cattle, most have only small numbers of animals. Moreover, the Pueblo's cattlemen tend to favor cow and calf operations over homogeneous herds of stocker animals. The Pueblo's 23 qualifying operators banded together, but they were only able to assemble about 225 head. The VCNP achieved its animal unit goal by expanding the permitting process to include a small number of non-Indian operators.

Just as many of the other people interviewed during this study, Armijo expresses general frustration with the Preserve's continual redefinition of its land management practices. Not only is the VCNP now seemingly less willing to work with collectives of small, local ranchers in favor of single, large operators, its subsequent emphasis on increasing grazing revenues by

expanding the number of permitted livestock places local cattlemen with small operations at a competitive disadvantage.

Armijo discusses the need for effective, holistic management of the VCNP. His concerns include fire and fuels management to help maintain a healthier environment given that the Preserve forms the headwaters for the Rio Jemez upon which the Pueblo depends. Armijo also discusses the need to use prescribed burning to maintain the Valles' grassland areas, which are significant parts of the Pueblo's cultural environment for reasons other than just ranching. Armijo notes, for example, that the grasslands high on Redondo Peak's upper south-facing slope form the shape of an eagle. This distinctive, grassy opening in the forest's canopy is a powerful symbol and a major part of the Pueblo's identity, as attested by an image of the eagle depicted on the mountain's side is featured on the Pueblo's official letterhead (Figure 2). He states that it would be devastating to his Pueblo if this grassland patch would be lost because of either woodland intrusion or a catastrophic wildfire resulting in the loss of the forest canopy.

Armijo mentions the Walatowa Woodland Initiative. In a recent undertaking, the community's forestry crews worked with the VCNP to reduce the risk of catastrophic fire on the Banco Bonito. The Pueblo's business then utilized the small-diameter trees that its crews removed during their tree thinning operations to produce *latillas* poles used as secondary beams in traditional roof construction or the building of pole [a.k.a. "coyote"] fences), and other forest wood products for commercial sale.

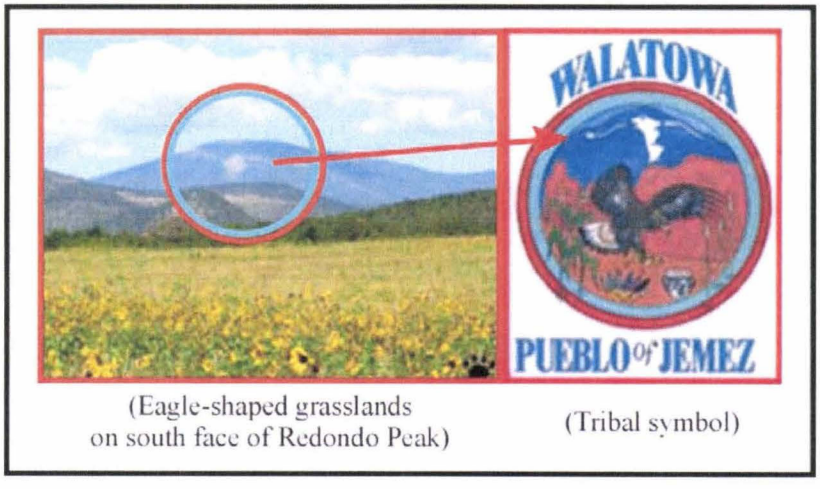

Figure 2. Pueblo of Jemez Tribal Symbol.

Armijo also cites his community's interest in seeing greater numbers of deer and the reintroduction of big horn mountain sheep to the Jemez Mountains because both animals are important in the culture and history of the Jemez Pueblo. Elk, he maintains, are taking over the habitat and are suppressing the deer population.

Mr. William Armstrong

Armstrong is a professionally trained silviculturist. He talks widely about his experience in pine forest fire management in private industry and government service. He is passionate about the need to reintroduce fire in the ponderosa pine forests, not only to enhance the health of the ecosystem, but also to most effectively and efficiently reduce the risk of catastrophic wildfire along the urban interface.

During his work in the commercial timber industry early in his career, Armstrong had already developed the understanding that fire was an integral part of pine forests. He became interested in fire fuels management following the catastrophic Dome Fire on the east flanks of the Jemez Mountains in 1996. His initial work examined the potential danger for crown fires on National Forests lands around the Los Alamos National Laboratory. He has subsequently worked on fire fuels management on National Forest lands within the Santa Fe watershed.

Armstrong discusses forest ecology in relation to his work thinning overgrown forests to reduce the future risk of catastrophic wildfire. Armstrong emphasizes the watershed concept and the benefits of mosaic burns throughout his remarks. In response to a question whether the high costs of mechanical thinning are justified if this activity protects homes on the urban interface, Armstrong states that the costs of mechanical thinning are reasonable only if the fire fuels reduction program protects the infrastructure, such as a watershed, of a whole community. Armstrong maintains that individual property owners along the interface need to accept the responsibility of protecting their structures. He does not feel that public funds should be devoted primarily for the benefit of a few. In comparison, Armstrong notes that communities relate to the need for significant expenditures of their funds for large-scale projects to reduce fire-risk in watersheds. He maintains that people readily grasp the fact, "This is what you drink" (545).

Armstrong's in-depth discussion of the methods and strategies of implementing fire fuels reduction programs and associated efforts in public outreach is noteworthy. He is an advocate of

giving local fire fuels managers and contractors the flexibility to devise solutions to local circumstances through a variety of mechanical thinning and prescribed burning techniques. Keenly aware of some people's health issues related to smoke, Armstrong discusses what can be done to anticipate, as well as respond to, their concerns. Although he is an outspoken proponent of prescribed burning, Armstrong is not optimistic that the amount of prescribed burning needed to make a difference in the SFNF (and elsewhere) will be permitted, primarily given people's smoke sensitivities and perceptions of smoke.

Armstrong recommends that the VCNP make the completion of its long-awaited fire management plan a priority, and he expresses dismay that the position of a fire fuels manager/forester was not one of the first staff positions created at the Preserve. In developing its fire management plan, he recommends that the VCNP include the design and implementation of control studies to teach land managers and the members of the general public alike about how different methods of fire and fire fuels management enhance a forest's ecology, as well as reduce wildfire risk. He maintains that there needs to be an information campaign to help people understand that under the conditions that exist today, land managers cannot prevent forest fires, but only exert considerable influence in how a wildfire burns. (Integrating a bit of humor into a serious message, Armstrong suggests portraying the iconic figure of "Smokey Bear" holding a drip torch as part of this redefined public education campaign.) Armstrong believes that land agencies need to do a better job of creating awareness that fire management is fundamentally a watershed issue.

In his remarks, Armstrong recommends that all area governmental agencies, including the USFS, the National Park Service (NPS), and the VCNP, exercise greater awareness of their need to develop and maintain constituencies. He thinks that governmental agencies, in general, are alienating the public at the very time that they are most in need of advocates. Without informed supporters, the tasks of developing and maintaining effective fire and fire fuels management programs are much more difficult.

Dr. Gregory A. Cajete

Cajete is a member of the Pueblo of Santa Clara, an educator, and an author. His Pueblo has asked Cajete to help develop plans for the regeneration of the Las Conchas Fire scar in the Santa Clara Canyon, which is the principal watershed for his community.

Cajete currently serves as the Director of the Native American Studies Program at the University of New Mexico. He also teaches in the University's College of Education as one of the American Indian Education Specialists in the Literacy and Social Cultural Studies Department. His publication credits include *Look to the Mountain: An Ecology of Indigenous Education* (Cajete 1994), which, among other things, examines a Native American understanding of *spiritual ecology* that defines the principles by which the people have traditionally interacted with the totality of their environment—the land, the water, the plants and animals, and one another—within reason and with responsibility.

Cajete grew up in Santa Clara Pueblo. His speaks of his experiences with members of his family, gathering wood, collecting piñon nuts, gathering other plants, collecting clay, hunting rabbits, and helping somewhat more distant relatives herd their cattle. These experiences fueled his interests in ecology. They also inform his understandings of the sense of place for the core of his Pueblo's traditional homeland, Santa Clara Canyon.

The Santa Clara Canyon drainage extends from its confluence of the Rio Grande to its headwaters along the east margin of the Valles Caldera Nation Preserve (VCNP).[31] While he was in high school, Cajete spent several summers in the canyon, which cuts deeply into the flanks of the Jemez Mountains upslope of his community's ancestral village of Puye, in various Pueblo programs. These times contributed to Cajete's understanding of the meaning and depth of Santa Clara Pueblo's traditional relationship with the Canyon. "This was our place" (3946).

Simultaneously, Cajete also comprehended that each of the other traditional Pueblo and historic Hispanic communities living on the flanks of the Jemez Mountains similarly maintained

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[31] Santa Clara Pueblo, whose land holdings border the northeast side of the VCNP, received 5,046 acres (2,018 ha) in the headwaters of the Santa Clara Creek as part of the purchase of the portions of the Baca Location No. 1 still owned by the Dunigan Family in 2000 (Anschuetz 2007:2).

intimate relationships with this landscape. Each community customarily maintained a strip of land that extended from its settlement core into the heart of mountains for its subsistence and identity.

> Very early on, people worked out this kind of cultural management plan. It was based on where you live and based on the places that you visited to obtain your fuel wood, where you hunted, where you collected plants. [3947]

Cajete later pursued his interests in ecology in his formal studies of in the disciplines of Biology, Sociology, and Education. Even as his professional career has flourished over the years, Cajete has never ventured far from his home community—and its piece of the Jemez Mountains—for more than a few months at a time.

Cajete opens his commentary talking about his remembrances of going into Santa Clara Canyon with his family as a youth. He reflects,

> I think for all of the community, the [Santa] Clara Canyon was the place where you 're-created'...We collected wood, and, of course, we have an intimate relationship with the lands that are [the] Pueblo's traditional aboriginal lands. [3893]

He continues, "There's an earlier record of peoples, Puebloan peoples especially, using all around the mountain, in different kinds of ways that are similar [to what we see] today" (3940).

Cajete talks about how people will tend to view the Valles Caldera from the perspective of their community's particular pathway. This pathway is what lends itself to "intimacy" and "orientation" (3949). These observations underscore the need for land managers to remember that each community affiliated with the Jemez Mountains has different cultural historical experiences and needs. To reduce these individual experiences into some coarse generalization ignores important sources of variability and can result in the severing of essential relationship.

"Management," Cajete maintains, "is based very much on a worldview" (3961). The perspective of Native communities, the perspective of Hispanic farmers and ranchers, the perspective of miners and industrial timber operators all are different. These differences are potent sources of disagreement and misunderstanding. Cajete observes that the economic

commodification and quantification of land and its resources has been transformative, with traditional understandings based on subjective meanings and experiences being overlooked, if not dismissed, because they are intangible values. He suggests, however,

> Maybe [intangible values] are just as important as the commodity and economic values of the place because they're basically the ones that last much longer in the lives and generations that have interacted with the place through time. [3963]

Cajete talks not only about the devastation of the Santa Clara Canyon during the recent Las Conchas Fire, but also the opportunities that the fire's consequences are now creating. He says that his Pueblo realizes that Santa Clara Canyon will never be the same, in part, because the climate is now changing. Consequently, the people of his community, just as the other people throughout the northern Southwest that live next among the scars of recent large forest fires, might be looking at very different conditions for regenerating their local forests. Cajete discusses the need for people to consider some very basic questions about how the people envision their future uses of their regenerating forests. What purposes are now appropriate with respect to the ecological conditions people are now facing? Santa Clara's goal is not to try to restore forest to what it was formerly, but to "facilitate [its] naturally coming back to some place that makes it more viable" (3970). The Las Conchas Fire, therefore, presents an opportunity for people "to educate ourselves to become wiser" (3984).

The last part of Cajete's commentary considers the importance of education and history. He maintains that education is a prerequisite for developing meaningful, effective, and lasting forest management policy. Education, however, is more than textbook reading and writing; a person cannot be truly educated "to the exclusion of the Natural World, to the exclusion of experience with other people" (4015). Cajete discusses the dual challenges of providing people with practical experiences with the land. The first is to enhance their ability to have empathy for the Natural World. The second is to help communities to remember the lessons of what actions have worked, as well as those that have failed, over the passage of time.

Cajete offers a number of recommendations. One is the need to engage local communities through meaningful and continuous engagement. Institutionalized thinking

"creates its own island" (3996). Another is to provide local community people with access to the land so they can experience it for themselves. The failure to fulfill this requirement results in Nature becoming an abstract topic of study that few people can relate to in actual practice: "[I]t's outside yourself" (4019).

In addition to education, Cajete recognizes economic, social, and political policy components in forestry management. He warns that economics needs "to be 'contexted' in a broader sense" (4029), a holistic ecological perspective is required. Cajete contends that treating components independently of one another obscures relationships and integration. He concludes,

> [I]t's really communities working together on issues that have meaning and relevance for them that make a difference. So, it's getting communities to be functional again and to take ownership and responsibility for their own processes of education, and then to take ownership and responsibility for the nourishment of their places, of their lands... Knowing and understanding that that nourishment [of their places] is also nourishment of themselves. [4036]

Ms. Debbie Barbara Trujillo Carrillo, with Dr. Charles M. Carrillo

D. Carrillo was born and raised in Abiquiu, which is on the northeast side of the Jemez Mountains. She lived in this community with her maternal grandmother until she married C. Carrillo, who is a famed artist, as well as a respected anthropological archaeologist. Although the Carrillos have lived in California, the greater Albuquerque metropolitan area, and Santa Fe since their marriage, they have retained close familial and social ties with Abiquiu. D. Carrillo inherited her grandmother's house in the village. Additionally, she and her husband once served a two-year term as co-*mayordomos* (managers or stewards) for the church even though they lived outside the community. The Carrillos talk about eventually retiring to Abiquiu.

D. Carrillo is proudly *of* Abiquiu. Throughout her commentary, the content and tone of her remarks mark it clear that she regards the village and the community's historical land grant not only as her home, but as the place to which she intimately belongs and is drawn to return. Inspired by his personal and professional passions for New Mexican Hispanic history and culture, C. Carrillo has conducted archaeological and anthropological research, including extensive conversations with members of his wife's extended family and their neighbors, for

more than three decades. In combination, the Carrillos talk about their relationships with the Jemez Mountains in terms of a landscape of memories inherited through Abiquiu's community land-based traditions and sense of place, their direct personal experiences, and their hopes for the future.

D. Carrillo's ancestors settled at Santa Rose de Lima, which is near Abiquiu, and directly in the Plaza de Abiquiu in the 1730s and 1750s, respectively. She is of mixed heritage, with her bloodline including Hispanic colonists and *genizaro* (detribalized Native American persons) of Hopi-Tewa descent. Although D. Carrillo did not grow up from childhood with academic facts about her heritage in the forefront of her mind and experience (in fact, she was largely unaware of the specifics of her family's genealogy before she married), the *genizaro* cultural tradition in which she was raised have shaped how she views and interacts with her Jemez Mountains homeland landscape in profound ways.

D. Carrillo recalls, with great love, her memories of going into the piece of the Jemez Mountains that historically belonged to her all members of her community, the Town of Abiquiu Land Grant.[32] She accompanied her grandmother into the Jemez Mountains to cut fire wood, pick piñon nuts, and collect a variety of native plants for food or medicine. Her discussion reveals the dependence of her family on the mountain's resources for their material welfare and the traditional stewardship ethic, which the adults taught the children about how to interact with the land. For example, D. Carrillo's family members only harvested deadwood for fuel because, D. Carrillo explains, "You don't cut green trees down" (4728). She talks about people being stewards, not exploiters. She explains that you harvest only what you will use and take care not to destroy a resource through wasteful practices that deplete future generations of plants and animals.

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[32] D. Carrillo and her children are not members of the Town of Abiquiu Land Grant. She explains that after the land grant community, which had been confirmed by the U.S. in the late nineteenth century, had defaulted on its taxes, nonlocal investors purchased the tract and transformed it into a land and cattle association. The investors adopted new policies, whereby only one individual could inherit a family's land rights. D. Carrillo's grandmother passed these rights to a son (D. Carrillo's uncle), who, in turn, gave these rights to his son (one of D. Carrillo's cousins).

The Carrillos decry that "poor management on the part of the USFS of not allowing people who traditionally" (C. Carrillo 4759) depended on the forests to use the land as they once did. C. Carrillo, for example, talks about the settlement of Los Recheulos, which, as recently as 1950, was in a clearing two miles in diameter, is now "so overgrown, you can't even see a house foundation anymore" (4761). He also bemoans the loss of an economically viable timber industry that once sustained local family operators. As a traditional artist, C. Carrillo regrets that he has no practical way of obtaining New Mexican wood for use in his art. "The people like me who... would love to have large pine panels... It's impossible to get New Mexican pine anymore" (4756).

D. Carrillo does not recall family members ever speaking about the USFS in either a direct or positive sense. She says, "The one thing that I do remember is that they would always be very careful about not getting in the Forest. We had to stay on the land grant" (4765). Not only were people keenly aware of the boundary, C. Carrillo reports that, based on his conversations with Abiquiu residents, "They were afraid of the legal implications of... using wood, hunting, doing all the kinds of things not on the land grant" (4766). D. Carrillo finds it striking that even as a child, she knew the USFS boundaries and also knew that she was not welcome there.

C. Carrillo furthers describes the state of the relationship between area residents and the USFS as "an 'us' against 'them' kind of thing" (4768). There is a lot of resentment and distrust, which, he feels, fuels feelings of alienation and resistance. Additionally, because most land managers come into the Jemez Mountains from outside communities where the perceptions, attitudes, and values about how to use the land are different, local residents feel that administrators "don't get it" and their policies "lack heart" (4843). The Carrillos share the opinion that the management of the Jemez Mountains privileges wildlife, not people.

The Carrillos talk about the Hispanic concept of *querencia* (home), which C. Carrillo defines as "A place that you seek out... It's your favorite place" (4825). In comparison, D. Carrillo describes her experience of *querencia* as being a feeling, a state of mind. She says that she "lives Abiquiu" all the time.:

> It's in my heart. Sounds, noises, sometimes smells. She adds that *querencia* is also respect: When you're up there and the respect that we have for this land, this place... It is part of who we are, so you have to respect who you are. And you have to respect it [the land]. [4830]

At the end of their interview, the Carrillos address the VCNP. They note that the Valles Caldera is in the heart of the Jemez Mountains. It has long been inaccessible to the people because of its private ownership. Now, the Valles Caldera is a National Preserve, but it remains off limits in many ways. To many of the people of Abiquiu, the Valles Caldera is irrelevant.

Mr. Robert Dryja

Dryja, whose first career was in health care management, is now a committed educator who draws from his life-long interests in biology and ecology. His goal in working with young people to broaden their educational experience to include the outdoors as a classroom and laboratory provides the underlying unifying theme of his commentary. He believes that lessons in science and mathematics are more accessible and meaningful if they are taught through applied approaches.

Dryja decries that fact that a large proportion of the young people in northern New Mexico communities have little experience, let alone understanding, of nature and ecology. Dryja readily embraces the Nature Odyssey Program, "No Child Left Indoors."

Dryja believes that access into the Preserve has been too restrictive. He cites his 4th and 5th grade students who have observed, "If you close the Valle Grande totally to public, then nobody will know about it. If nobody knows about it, then nobody is going to care about it" (609). Dryja and his students, however, are equally aware that "You can't open the Valles up too much or it will become another Disneyland" (610).

Dryja is an advocate of the VCNP defining education as one of its principal missions and for the Valles to become a dedicated learning center. He thinks that the Preserve should have programs for children, adolescents, and adults to learn and explore, while simultaneously serving as a refuge or place where people can go to "recharge their emotional battery in nature" (649). He supports the Valles in its existing efforts to bring in experts from a broad range of natural

science disciplines to study and document the richness of the Preserve's geological and biological environments.

Dryja offers a number of recommendations whereby the Preserve's ongoing ranching program is retained to help people understand the balance between the need for agriculture and food, in addition to the need for nature. He calls for limited logging for fuel wood and use of small-scale lumber operations to help thin overgrown woodlands where such activities can be feasible economically. He also recommends the development of an active prescribed burn program, which could simultaneously serve management and public education functions on issues related to fire ecology, fire fuels management, and woodland habitat restoration and enhancement. Dryja would like to see the development of a trails program, which links the Valles to other parts of the Jemez Mountain Range. If based on the Boy Scouts of America's Philmount Trials initiative, he believes that this program could effectively combine educational benefits for young people with an economical means to construct the trail system.

Dr. Richard I. Ford

Ford was recruited to participate in this study given his personal enjoyment of fly fishing in the Valles since the Preserve was established. His professional history of archaeological, ethnobotanical, and ethnographic study in northern New Mexico, including the Jemez Mountains area, was an additional factor in his recruitment to participate in this study because Ford is a resource for information about indigenous and traditional Native American uses of plants, animals, and fire in the region.

Ford talks about his studies at Jemez Cave, which is located along the Jemez River between Jemez Springs and the VCNP. Noting the predominance of big horn sheep bone and obsidian artifacts in the site's archaeological deposits dating to the late Archaic period (ca. 500 B.C.–A.D. 400), Ford infers that Jemez Cave's residents spent parts of their summers hunting these game animals and collecting raw obsidian. Ford's archaeological information not only contributes to a fuller understanding of the long history of the human occupation in the Valles, it provides invaluable insight about the traditional importance of the relationship between people and big horn sheep, which were a significant component of the Jemez Mountains ecosystem until they were hunted to extinction during the late nineteenth and early twentieth centuries.

Although Ford does not have specific information about traditional Native American plant uses in the Preserve, he shared what he had learned about the Valles' use by members of the Santa Clara Pueblo. These activities include hunting, fishing, trips to the Pueblo of Jemez (with which the Pueblo of Santa Clara maintains close social and trade relationships), and fishing with nets.

Ford reports that he has actively pursued questions about indigenous fire use in forested mountains for managing native plant habitats or upland grazing tracts over his career. He has not learned anything specifically concerning the VCNP and the surrounding Jemez Mountains. Instead, he shares information about how various Pueblo communities in other parts of northern New Mexico traditionally used fire to manage and manipulate several species, including leaf sumac, piñon, and oak. Ford also talks about other upland forest resources used by the region's indigenous peoples. Speaking of ponderosa pine bark stripping, piñon pitch gathering, and the selective pruning of certain trees and shrubs for cradle boards and bow staves, he makes the important observation that few archaeologists who conduct traditional cultural resources surveys possess the training or experience to recognize, document, and assess these important "living artifacts" (795). This broad lack of expertise highlights a host of significant consequences for fire and fire-fuels management efforts, which might inadvertently threaten culturally modified trees, as well as development planning.

Ford's discussion of his recent fly fishing experiences is informative. The quality of his experience suffered greatly during the 2008 season because of the increased number of cattle grazing in the riparian habitat. Although he is not fundamentally opposed to cattle grazing in the Valles, Ford is adamant that the grazing program be structured and implemented to avoid, or at least minimize, the potential conflict between differing interests.

Ford talks about his preference for the Valles to become more open to visitation, although he is careful to concede that the Preserve's management concerns need to include the intensity of use and access by visitors. Ford offers a number of suggestions for enhanced visitor access and experience, including the development of a rim trail and modifications to the fly fishing program. He also expresses the belief that the VCNP has the potential to "become one of the great science laboratories in the country" (891).

Ford makes the argument that whatever the VCNP decides about the structure of uses that it ultimately decides to allow, access to programs need to be equitable for members of each stakeholder group. He offers his opinion about the need for fire and fuels management in the Valles, including the use of prescribed burning.

Ms. Teralene S. Foxx

Foxx's professional training and experience in biology, her long residence in the Los Alamos community, and her passion for teaching frame her interview remarks concerning fire ecology and restoration in the Jemez Mountains. Just as she is well-informed and passionate about her work, she possesses tremendous understanding and compassion for those who have been adversely affected by catastrophic wildfire. She believes that a greater understanding of fire ecology allows communities to better prepare for the future through programs to reduce wildfire risk and recover from wildfires. Foxx maintains further that this knowledge is also essential for helping people themselves recover in the aftermath of a catastrophic conflagration.

Foxx begins her commentary discussing her history in studying fire ecology following the La Mesa Fire, which burned in the Bandelier National Monument in 1977. She recounts that prior to this burn, her perception of wildfire was that it was a bad thing thanks to the success of the "Smokey Bear" campaign of the 1950s and 1960s. Foxx describes her experience studying the ecological consequences of the La Mesa Fire as "a life changing moment" (922) because she saw new plant life growing in the soil left blackened by the fire only a few days earlier.

Foxx tells of her amazement when she witnessed the rapid rate of new growth sustained in the very same plant study plots that she had been documenting before the La Mesa Fire. This experience helped her understand that fire had a necessary and important place in the forest ecology of the Jemez Mountains. She sees fire, even catastrophic wildfire, as one of the ways through which "nature heals itself" (980, 1016).

Just as Foxx had comprehended that fire was a necessary part of Jemez Mountain pine forest ecology following the La Mesa Fire, she learned the importance of grieving following the Cerro Grande Fire of 2000. Her experience was that the sense of loss people felt for the trees on the mountains that overlook Los Alamos was no less real than the loss they felt for the loss of homes in their community. Foxx realized that people sometimes anthropomorphize trees

through the intimacy of their experiences with their forests. Moreover, Foxx discovered that when people experienced the process of renewal that immediately follows a forest fire, they were better able to cope with their senses of loss and grief.

Foxx maintains that she was in favor of the initiative to create the Preserve. She does not believe that the implementation of this idea has progressed smoothly, however. She says, "If you want people to love the environment, if you want people to take care of the environment, if you want people to understand your management, you have to let them be there to be part of it" (1056). Allowing people the opportunity to experience a place is an essential part of helping them to develop an informed perspective. She warns that if people are not allowed hands-on experiences with a place, then they might develop ambivalent, if not outright negative, feelings about it.

Foxx embraces the NPS model for governing back county access at the Southwest's national monuments. She expressed her frustration with the current level of public access at the VCNP. She notes that although people can stand atop one of the dunes in the Great Sand Dunes National Monument as part of a routine visitor's experience, they usually cannot stand in the middle of the Valles Grande without first purchasing a fishing permit or receiving some special authorization from the VCNP.

Foxx emphasizes that solitude is a quality that she has sought out and has enjoyed in her backcountry experiences. She notes that feelings of seclusion and intimacy with a place are not possible when hikes and other visitor opportunities are strictly regulated as group activities.

Foxx offers a number of recommendations for the management of the VCNP. She feels that fire management should include prescribed burns under very specific conditions to keep them from growing into wildfires. She believes that selective logging is permissible to reduce overgrowth, with the wood resulting from these operations used for *vigas* (large timbers used as principal roof beams), *latillas*, coyote fences, etc. She suggests that cattle should be grazed in the Valles' pastures on a rotational basis to maintain the integrity of the stream banks and the quality of the forage. Citing her observations that too many elk can be devastating to the environment and that overcrowding can be harmful to the population's overall health, Foxx talks

about the need for the VCNP to become more actively involved in the management of the elk herds that congregate on its lands.

Mr. Louie Hena

Hena, who is serving as his community's Lt. Governor during 2012, is of the Pueblo of Tesuque through his mother's family, while his father's family is of the Pueblo of Zuni. Hena has a broad background and varied interests in environmental issues, which are partly grounded in his experiences helping his mother, as well as his maternal and paternal grandparents, in their gardens when he was still a child. Hena has also assisted members of his extended family wrangle cattle at Tesuque and Zuni. Hena recalls the predominance of his family's undertakings related to husking corn, processing beans, sanding pottery, butchering, and piñon nut gathering. He states, "I couldn't just call it a part-time activity; it was our livelihood" (4049).

Hena realized early on that he needed a broad educational background to equip himself to best serve his family and community. He took classes in many different disciplines before identifying his main interest relates to the discipline of Biology. Today, Hena is an environmentalist who is actively involved in a variety of community-based projects, including forest, range and riparian restoration, resource management, and agriculture. He has been deeply involved in the development of curriculum and implementation of the Native American Permacultural Design Course,[33] which is a workshop held on a near-annual basis in north-central New Mexico over the better part of the past two decades. Hena is an avid outdoorsman; he regularly hunts, hikes, rafts, and fishes.

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[33] As defined by its author (Mollison 1988), *permaculture* refers to a coherent set of principles and practices for creating and sustaining a system of sustainable agriculture. In teaching permaculture workshops, Hena notes, with satisfaction, that his work is reintroducing codes of stewardship that his ancestors and other indigenous peoples had previously incorporated into every aspect of their everyday lives. Cognizant of the fragility of New Mexico's environment, Hena maintains that the achievements of indigenous Native American peoples are lessons that people can use for enhancing the quality of their lives today and into the future. These traditional teachings are based on the principles of caring, sharing, and respect. Whereas Mollison (1988) refers to *permaculture* as "permanent agriculture," Hena views *permaculture* as a means to sustain communities through "permanent culture" (4064). The past, therefore, is essential today for building a future.

Hena notes that his familiarity and love for the Jemez Mountains was instilled into at an early age. Because he was born into "an outdoor family" (4056), which did "a lot" (4053) of piñon nut gathering (among other things), he says that he probably began to experience and know the Jemez Mountains while he was "still in diapers" (4056). Hena, however, emphasizes, that his knowledge of the Jemez Mountains is also deeply rooted in his learning about Tesuque's history and traditions, which commemorate the community's traditional relationships with "places to the west" (4057) of the Pueblo. He speaks his having learned about places up in the Jemez Mountains even before he remembers his first trips into the forests with members of his extended family for different purposes. "Even through our songs...you could visualize through the songs, in being there physically. You'd know where you're at" (4184). Additionally, these traditional community lessons "kind of give you a picture of what's there" (4073). Hena recalls going as far north in the Jemez Mountains as Coyote and Regina and west over to Cuba. He also remembers crossing the range with family members to visit the Pueblos of Jemez, Zia, and Cochiti.

Hena is committed to the idea that fire is an important component in Jemez Mountains forest ecology:

> [I]t's good, because it's cleansing. As soon as the fire is gone, what do we have? We have brand new grass, we have new shrubs. All the [plant] pioneers coming around, and all the wildlife coming in. [4086]

In his opinion, there has been an unacceptable build-up of fuels because of past land use and fire fuels management practices.

Hena is an advocate for allowing forest fires to burn in backcountry settings. When asked about the threat that fire poses of homes and key infrastructure, Hena expresses his opinion that people need to accept responsibility for their decision to build in the forest interface, as well as their actions to protect their investments from the threat of wildfire.

Speaking of USFS management policies, Hena feels that the agency should look at community-based management initiatives. He believes that current policies are increasingly working to exclude area residents from meaningful interaction with the Jemez Mountains and

their resources. To Hena, "People have always been part of the landscape" (4090). People need to retain access to the landscape.

Hena fells that indigenous and traditional communities have largely been excluded from meaningful participation in the management of the forests upon which they have depended upon historically for their livelihood and need to maintain their traditions and practices in the present day. Hena is aware of how the government-to-government relations that Tesuque Pueblo maintains with federal and state agencies allow his community to share its opinions and concerns. He feels as though agency personnel sometimes enter into a consultation process with his Tribe with a ready-made decision in hand, however.

Hena cites the recent round of road closure planning as an example. He acknowledges that some roads need to be closed. Hena feels, however, that too many roads upon which people depend for access to fulfill particular needs have been targets for closure because land managers neither understand nor are willing to listen to local residents about why certain roads are important.

Hena observes that Western education is often privileged in management consideration. He feels that the insights and concerns, which are based on centuries of careful observation and experience, shared by the region's traditional and historical communities are ignored, if not discredited. He speaks of a need to return to a philosophy that local communities come first in developing policies for land use and forestry management. Hena recommends the adoption of value systems that do not narrowly view forests and their natural resources as commodities. Rather, Hena is a proponent of a perspective that views the forests as a holistic, long-term process. He feels further that the acknowledgement of the cultural and historical importance of places within the landscape and respect for the people of the local communities need to inform and guide the development of management policies.

Hena maintains that many local community people know what needs to be done to enhance the environment by virtue of the intimacy of their relationship with the forests. Policies and programs that involve local the active participation of local residents should be priority. He equates "the health of my landscape to the health of my community... If we got the people out there to heal the landscape, they will heal themselves" (4107).

Hena suggests that community-based programs should generally resemble what is done now, but he notes that policies should be redefined to enhance the ability of communities to come into the forest and harvest products for their use. He believes further that local communities, which maintain close cultural and historical ties to the mountains, have plenty of people who are capable of doing this type of work. Hena calls for the development and implementation of co-management programs.

Ms. Dorothy Hoard

Hoard was a chemist throughout much of her professional career. Long before her retirement, she became involved in botany and ecology. She is also a long-time avid hiker. Unsurprisingly, Hoard's interview comments emphasize her passions in the Jemez Mountains back county: botany and hiking.

Although she is an advocate for recreational uses in the forests, Hoard is careful to note that she acknowledges there are other legitimate stakeholder interests, including grazing and ranching. She emphasizes that every stakeholder, as well as each land manager, needs to consider where the Valles are and what all goes on inside the Preserve.

Hoard gives an eloquent discussion of what, in her opinion, constitutes *wilderness*. With this definition in mind, she talks about what she believes are appropriate uses of the Preserve and why some interest groups are in error when they advocate highly restrictive recommendations governing the Valles' reasonable use. She maintains that the Preserve is not a wilderness, and that proponents of placing the VCNP in the National Wilderness Preservation system could have the unintended consequence of degrading the wilderness concept throughout the nation.

Based on her experience hiking widely in the Jemez Mountains, Hoard is keenly aware of the problem of overgrowth and fire risk. In terms of their potential recreational use, she notes that overgrown woodlands are "unpleasant" (1155) to walk in. When talking about the fire risk issue, which she views as a pressing concern, Hoard maintains that active suppression during wildfires is not generally appropriate unless infrastructure is threatened. With regard to the problem of overgrowth in the urban interface, she suggests that mitigation measures, including prescribed burning and mechanical thinning, are fitting and needed.

Hoard is critical of the VCNP for not yet having completed its fire management plan. She expresses her hope that the eventual plan will divide the Preserve into clearly defined zones in which fire is allowed to burn and in which it will be suppressed. She also wants to see a decision-making matrix based on local vegetation (with respect to its fire ecology) and environmental conditions (e.g., moisture, wind, etc.) at the time that a fire is burning. Hoard states her desire that the Valles' land use and fire management plans also take wildflowers into consideration. The emphasis on grassland management has been so successful in maintaining grasses that wildflower populations now are being reduced.

Consistent with her acknowledgement that the VCNP has multiple stakeholder interest groups, Hoard addresses the multiple use issue. Hoard talks about how the management VCNP differs from and is similar to the USFS in this regard. She makes the point that the Valles is an intact caldera, and as such, "It's something that you should pay special attention to" (1208).

She states that she has no objections to grazing in the Valles per se; however, Hoard does object to tight controls that unfairly increase operating expenses and make grazing operations unprofitable for local, small-scale concerns. Expressing the opinion that logging in densely overgrown woodlands can be beneficial, she has no issues with the idea of logging by local operators who can market small-diameter forest products.

Hoard is supportive of elk and turkey hunts. She voices her concerns over the number of elk, which are damaging the environment and are suppressing the mule deer population through competition.

Hoard also talks of her work to document the historic trails that cross into the Valles over the East Wall of the Jemez Mountains, as well as her advocacy for constructing a rim trail along the Preserve's margins. The rim trail, she contends, would to allow people much desired access to scenic overlooks, hiking trails, and solitude, while simultaneously protecting environmentally sensitive locations within the Preserve's interior.

Mr. John T. Hogan

Public education and the topics of fire ecology and fire restoration are emphasized in Hogan's interview. Much of his discussion centers on his work with the Volunteer Task Force,

which is a nonprofit organization that Hogan co-founded with Craig Martin (see Martin interview below) in response to the devastation that Cerro Grande Fire in 2000 inflicted on the Los Alamos community. He has found that the discipline of ecology, which teaches the understanding that people are part of nature, draws people into the program and makes the lessons being taught relevant and accessible.

Hogan's account of his personal experience with the Cerro Grande Fire is compelling and instructive. Although he had been around forest fires for years, "it wasn't ever my forest, my town...Even though I understood it intellectually, [the Cerro Grande Fire] was emotionally extremely difficult" (1374). He found that focused restoration activity was a way to assist in the healing process of many people, including himself.

The Volunteer Task Force also taught him much about how effective and productive fire and fire fuels management requires a community. Community, he has continued to learn, crosscuts administrative and political boundaries. This lesson has significant implications for effective fire and fire fuels management in the VCNP and the surrounding Jemez Mountains.

Hogan is an advocate of having children work with experts and incorporating their service in their studies to facilitate learning. Through the Volunteer Task Force, he has worked at developing programs and curricula through which Los Alamos area 6th grade students have learned about fire ecology, built trails, and participated in post-fire restoration projects. The latter activities include the compilation of environmental information, planting trees, and building bird houses for species that lost their shelters because of fire. Hogan remarks that the public service component of the Volunteer Task Force initiative helps differentiate it from other programs because the Volunteer Task Force tells the children, "We need their help. And we do" (1392). The hands-on component of the Volunteer Task Force is empowering because it teaches young people that they can make a positive difference in their community *today*.

Hogan has observed that VCNP's woodlands are overgrown and suffer from a lack of biodiversity. He maintains that the Preserve's forests require aggressive thinning and use of prescribed burning. Hogan believes that this effort requires the investment of careful consideration in creating a functioning forest through the development and applications of fire fuels management protocols. He warns that without a clearly specified goal of forest restoration,

however, managed forests can begin to resemble artificial plantations. Hogan talks about the need to have a diverse age mix of trees within thinned forests as a hedge against climate change.

It is seldom feasible economically to remove all debris generated during thinning operations; therefore, Hogan believes that *in situ* mastication is an appropriate alternative as long as attention is paid to the depth of the resulting mulch. This monitoring is needed, he states, to avoid starving the underlying soil of oxygen.

Hogan views the VCNP as a laboratory where researchers, fire managers, and the general public can participate in finding solutions to challenges. He maintains traditional blanket-type approaches to problems, such as the strict imposition of 9-inch diameter caps during tree thinning operations, are neither effective nor appropriate because they do not take into account different topographical aspects, species structure, degree of canopy closure, etc. Given its environmental diversity, the Valles could serve as a place where new management approaches could be developed through controlled experimentation.

Because the Preserve has high visibility in the region, Hogan suggests further that fire and fire fuels management techniques developed in the Valles be used to further educate the public about the essential role that fire plays in sustaining a healthy forest ecosystem. He says, "People who live in the mountains ought to understand that... every time they see a puff of smoke that it's not death and destruction. Maybe the word that should come to mind is 'rejuvenation' or something a little more positive. It doesn't take long after... beneficial fires to go [out into the forest] and see something better coming back" (1489). He feels the public should know that even though the Cerro Grande Fire was catastrophic, many of its burned areas are now producing more food for a greater variety of wildlife than before the fire.

Hogan supports the idea of training the residents of local rural communities about sustainable uses of the forests, including livestock grazing and logging. In this way, people are recruited and prepared to become "guardians of the forest" (1468) even as they harvest whatever resources they depend on in support of their economic subsistence and maintenance of their community traditions. He also talks about how trail building is a metaphor of life itself:

> It's about making your own way; it's about constructing your own way. It's a lot about water... You learn a little hydrology. You learn some patience. You

> learn how to pace yourself when you're working. You learn about minimizing impact so it doesn't erode. You learn about steepness, about building bridges. You learn about building rock walls. You learn about teamwork. [1521]

Dr. Thomas Jervis

A physicist by vocation and an avid outdoorsman by avocation, Jervis holds the philosophy that one's impact on society is based on what one does for society. He became interested in forest ecology after becoming an environmental activist in opposition to the logging industry in the Southwest's forests. His interest in fire and fire fuels management has roots that date much earlier in his career.

Jervis would like to see Jemez Mountain ecosystem function more naturally. This goal requires information on fire frequencies, sustainable elk herd populations, etc. Jervis advocates a combination of prescribed burning and tree thinning to reduce the risk of catastrophic fires, and he would like to see managers be given the latitude to allow backcountry fires to burn unimpeded.

Jervis notes, however, that society cannot allow fires to burn without human manipulation around homes and community infrastructure. He states,

> The matter of risk is a matter of recognizing and being able to admit that you are not going to be able to eliminate the risk. The risk of catastrophic wildfire is there. It's not going to go away no matter what you do. But you can mitigate the risk by doing sensible things like getting rid of some of the dog hair, getting rid of the ladder fuels, doing lots of prescribed fires at frequent intervals to keep the ladder fuels in check. [1713]

Jervis believes, "People have to understand where they live" (1727). They need to be taught how to make their homes defensible in the case of wildfire. They also need to be taught to accept the consequence of their actions if they choose to live in the urban interface.

Jervis offers much valuable insight into what *wilderness* is and how public understandings are based on the popular, romanticized stereotypes, such as those portrayed in

"Bambi." Addressing the VCNP specifically, Jervis does not consider the VCNP to be a wilderness because of its readily visible history of intense use for grazing and logging. (He says that the land was ridden "hard and put away wet!" [1636]). Jervis clearly does not intend for his views about the Valles lack of wilderness quality to be construed as criticism that diminishes the Preserve's value; he considers the VCNP to be a "much more important cultural landscape than a natural landscape" (1638).

Whereas many people visiting the Preserve take delight in seeing great elk herds in the Valles Grande, Jervis is concerned by the facts that the elk population is unnaturally large and that the animals are beginning to have a significant negative impact on the ecosystem. If it is at all possible (and he admits that this possibility is highly unlikely), Jervis would like to see the reintroduction of wolves into the Jemez Mountains.

Jervis is critical of the USFS, which he describes as working from the premise that one can make a forest however he/she desires through silviculture. While he believes that it is fine to micro-manage an ecosystem if people are highly dependent on its resources for their material survival, Jervis is committed to the idea of allowing most forests, including those in the VCNP, to function largely independent of humans. Jervis implies that awareness and experience of natural processes are important for people's emotional survival.

Jervis decries what he sees as a major problem in contemporary public lands management: an "everybody stays out!" (1686) mentality. Jervis favors greater public access into the Valles, but he realizes that access involves of host of management issues that must be dealt with to protect the ecosystem and stakeholders alike. There is a need to find a balance between too much access and none at all. Stating the belief that most people are satisfied to view nature from a distance, he recommends that the Preserve develop policies that stage public access on different levels to satisfy the stakeholders' needs while maintaining the integrity of ecosystem. As part of these management decisions, Jervis thinks that it is important for the Preserve to provide context that helps people understand that a natural ecosystem exists. He states, "My idea is that the Valles Caldera National Preserve becomes a National Preserve managed by the Park Service, under the Park Service mandates, but with hunting" (1700).

Jervis has no particular issue with grazing in principle, although he notes that if it is not carefully managed, overgrazing can damage the ecosystem. Jervis would like to see the Preserve work with local ranchers to collaborate so they could compete in winning available grazing permits. Access to the Valles grasslands could be beneficial to the local ranching community.

Jervis is opposed to the idea of greater public access including policies allowing more motor vehicle use. He cites erosion issues, damage to habitats and cultural resources, and noise.

Mr. Timothy Johnson

Johnson is a member of a long-time ranching family. A large portion of his interview focuses on ranch-related topics and includes a long discussion of his family's history, land use, community interaction, and ranching in the Jemez Mountains area. Both his wife (Charla Johnson) and his mother (Clara May Johnson) participated in the interview and shared additional information on the family's history and business enterprises.

The Johnson's love and commitment to the rural ranching way of life are strong and readily apparent throughout the interview. The family began homesteading in the Cuba area around 1936. In discussions of large ranchers/landholders in the area in earlier times, Clara May mentioned Frank Bond, who lived in Espanola and ran livestock operations in the Valle Grande. They also mentioned other lessees in the Valle Grande, but their family never ran cattle in the Valles. Presently, they ranch full time and operate a trading company and store.

When asked how using the VCNP for grazing their animals would help their operation ecologically or economically, Johnson replies that he has made one previous application for a VCNP permit, but his efforts were unsuccessful. He states that he and his wife are the third generation ranching on their property and that his family needs to expand the land base of their operations to bring in more income and to keep the upcoming fourth generation (their sons) in the ranching business. He says, "[M]y boys... They are interested in this, like I said a while ago—why did people leave? They needed more income. You can only run so many cattle... the fourth generation has to expand" (1772).

Johnson stresses the theme of multiple use and active management on the VCNP and considers the importance of these uses to the Preserve. For example, he believes fire and fuels

management must be undertaken or the place will become a "tinderbox" (1782). Fuel wood should be sold. Johnson views prescribed burning as effective. He concedes that prescribed burning has been overused in some places, but he feels that it has not been used enough on the VCNP in recent years. He also states that smoke could be a health concern for some people. In his view, the chance of a prescribed burn escaping is increased by the failure to burn. Johnson comments that thinning of small diameter trees and logging are needed, and he supports combination treatments (when properly managed) such as burning, mechanical thinning, and logging with herbicide use "at the right time" (1792).

Johnson recommends that elk should be managed just like cattle. He prefers a mix of cow and calf, and stocker operations. He states that fire management, sport hunting and fishing, cattle, logging, and other uses can all be done simultaneously. Although he prefers seeing cattle over elk on the Preserve's lush grasslands, he feels there's room for all, at least for the next 20 years. Although the Valles Caldera is not significant to his family currently, it could become so if he were able to obtain a VCNP grazing permit. Johnson stresses there should be fair access for all types of users and that the most important consideration is how the land is used and managed.

Ms. L. C. ("Chris") Judson

Judson served on the Fire Information Office (FIO) teams during the La Mesa, Dome, Lummis, and Cerro Grande Fires, all of which occurred on the eastern flanks of the Jemez Mountains between 1977 and 2000. To be effective in this position, Judson has had to learn about fire ecology, as well as how to converse with the public who generally lacks an understanding of wildfire ecology and behavior. A major part of her discussion focuses on the role of FIO staff, as well as her personal observations and feelings during the Cerro Grande Fire and its aftermath.

Judson's commentary about the sense of grief that gripped the Los Alamos community following the Cerro Grande Fire is poignant. She relates that residents were so traumatized by the fire's impact to their neighborhoods that they were initially unable to drive safely through town when they were finally allowed to return to their homes; the damage they witnessed was too distracting and shocking for them to concentrate on where they were going in their cars.

People carried water, which they would give to young trees, when they hiked into burned areas. Even now, the better part of a decade later, Judson remarks,

> I just keep wishing that the...dead trees would fall down because... You look up there and it's green now..., but on the ridgeline it looks like a comb because of all those... dead trees... If they would [fall down], then it would stop reminding you, and it would stop looking like it was a burned area. [1899]

Judson also recounts how people coped with their senses of loss and overwhelming grief by turning to their community for support. A radio station sponsored a website on which residents, who lost their homes, could identify their needs. People put green ribbons on their car antennas to symbolize the recovery of their community. The town held a hero's celebration for the fire fighters on the 1st anniversary of the fire. Judson reports that large numbers of people (500 or so) showed up for volunteer days because they cared so much and wanted to help.

Judson also talks about going out to areas that burned during the Cerro Grande Fire to see the new growth. She also has been taking people out to the La Mesa Fire area to see the recovery that has taken place over the 30 years since that burn occurred. These outings reinforce her knowledge, and those of her guests, that recovery in the areas burned during the Cerro Grande Fire is surely underway.

Despite the trauma of the Cerro Grande Fire, Judson feels that the people of Los Alamos now understand that fire is an essential component of the Jemez Mountain ecosystem. She credits Craig Martin, who was hired by Los Alamos County (see Martin interview below), in large measure, for educating the public about fire fuels mitigation. She feels that although the Bandelier National Monument is subject to much more scrutiny than the County when it plans and enacts prescribed burns, people are becoming increasingly comfortable with the idea of the NPS again using this technique. She hopes that the Monument will be able to conduct prescribed burns on an increasingly regular basis as it earns back the trust of the Los Alamos community.

Judson discusses the Bandelier National Monument's back country permit program. This process might serve as a model for the Valles to consider and refine if it one day decides to create and implement its own back country program. Judson states that the Monument requires

permittees to sign in at the Visitor Center in person, tell the staff how long they will be in the back country, identify the route they're taking, and where they are going to camp each night. Because Bandelier also tries to emphasize solitude through their permit system, applicants agree "to be out of sight and sound of other groups, so that everybody hopefully has the illusion that they've got the whole place to themselves" (1973). They are also asked to return to the Visitor Center to sign out when they leave to reduce the likelihood of false searches. Judson feels that this on-site orientation requirement has proven to be highly beneficial for visitors and staff alike. Visitors receive valuable information and context before embarking on their backcountry hike, while the Monument obtains the information that it needs to manage the program, as well as to monitor the whereabouts of its backcountry visitors.

Dr. Charles ("Chick") Keller

Keller's academic training is in astrophysics and fluid dynamics. He has also well-developed interests in botany and ornithology. While the latter pursuits underlie his familiarity with—and his experiences—in the VCNP, his professional concerns in fluid dynamics have contributed to his understanding of wildfire behavior. But as Keller admits, his concern with wildfire is deeply personal: "Having your house burn down [during the Cerro Grande Fire] ... focuses your attention: Why does this happen? What are the dynamics?" (2031).

Keller has observed that firefighters are generally able to suppress and manage small (100 acres or less) wildfires; however, he maintains that firefighters are generally ineffective when burns grow larger than about 1,000 acres, particularly if there are frequent (1 or 2 weekly) wind events. He says, "You can't fight mother nature with a shovel" (2041).

Keller feels that forest fire suppression is expensive and a drain on agency budgets. He suspects that in many cases managers need to use their limited research funds over the short term to fight wildfires, thereby hampering the ability of the people trying to understand fires and to learn what they can do about them over the long term.

Keller advocates allowing fires to burn in remotes areas. With regard to the issue of wildfire on the urban interface, he believes that individual homeowners have the responsibility to make their property defensible. "Fires need something to burn. They don't just magically get your house" (2049). (Keller admits that he lost his home during the Cerro Grande Fire out of

"ignorance" and not taking the initiative to learn how to protect his property before the conflagration.) In the cases of backcountry and urban interface wildfires alike, Keller believes managers and firefighters should receive amnesty for whatever decisions that they make while working fires. This way, people with the most knowledge and experience of which techniques worked and failed under different conditions might be more willing to contribute to a comprehensive understanding of fire behavior.

Although he does not consider the VCNP to be a wilderness, he finds that it has a remarkable, dramatic effect on people. Keller also understands that people want the wilderness to reclaim the Preserve.

Keller discusses ecological conditions within the VCNP at length. He offers many observations, including the contributing role of cold air drainage in sustaining the Valles' grasslands, the ingenuity of coyotes in learning to use cattle fences to hunt elk calves, and elk migration patterns.

Given that the VCNP is supported with public funds, Keller believes that there needs to be greater access into the Preserve, least the Valles further alienate its constituency. He outlines several ideas, which reflect a staged approach in providing public access.

Keller talks about wanting to see cattle ranching to be an economically and environmentally sustainable cultural practice. He advocates the development of management policies that rotate both cattle and visitors among different areas of the Preserve to minimize the potential that ranching and recreational activities cross paths with negative consequences for either interest group. Moreover, Keller thinks that the ongoing studies of cattle grazing in the VCNP are important for better understanding ranchland ecology. Although the damage caused by past logging operations was severe, Keller acknowledges some residual benefits. He states his hope that the VCNP might even someday consider conducting logging experiments.

Keller views the Valles as an important laboratory where much needed environmental research can take place. For example, he believes that there should be much more study of the fire ecology in the Valles because it is such a unique and diverse landscape. That is, the Valles Caldera offers researchers the opportunity to study how fire behaves under different circumstances. Keller expresses the wish that the knowledge for suppression becomes

sufficiently robust through research that people could have complete control over fires "so that we can put a fire out if we need to. That way, we can let them burn with impunity" (2209).

Keller wonders if the timing of prescribed burns in the region's ponderosa pine forests might be affecting seed germination and seedling growth; this question could be answered through scientific study. He would like the VCNP to consider the possibility of partnering with LANL, which already has developed a fire behavior modeling program, to run scenario fire models to learn what is likely to happen under differing conditions. This way, the Preserve could better prepare itself in the event of a wildfire.

Mr. Gregory Kendall

Kendall has been involved with the VCNP in a variety of capacities—volunteer, cyclist, hiking enthusiast, and friend—ever since he and his wife moved to New Mexico in 2004. His remarks convey his love for the Valles, the joys of many of his experiences there, and his hope that others might also experience the pleasure of this landscape for themselves. He also expresses the frustrations that he has sometimes felt during his interactions with the VCNP's administration.

Kendall's introduction to the Valles came shortly after his family moved to Los Alamos. He knew that we wanted to get involved with the VCNP so he might get to know this landscape first-hand. A big mountain bike event, organized by the VCNP and a local club (the Tough Riders) working in collaboration, was his entrée. During this event and another that he participated in the following year (2005), Kendall experienced a series of highs and lows. The highs were related to his opportunity to explore the Valles; the lows came, in part, because of repeated break downs in communication and inconsistency in management policy.

Kendall describes his disenchantment and frustration. He feels that the Preserve, as represented by the Board of Trustees and some staff members, at times neither welcomes nor understands the concerns of the VCNP's constituents and neighbors. Kendall states that during public meetings, some VCNP Trust members have made "a big point" (2347) that people should explore areas surrounding the Valles ran than continually petition for greater access into the Preserve. At other times, some staff members convey the impression that "they don't really want involvement of community-based groups to help out" (2353).

Despite his frustrations, Kendall has continued to volunteer at the Preserve. He does so because he is drawn to the Valles because of its qualities of beauty and solitude. Although public access is usually restricted, Kendall has learned that volunteering is a good way to have quality opportunities to experience this landscape with relative freedom even while contributing his labor to enhance the property.

Kendall would like to see more hiking and mountain bike opportunities, including prepared trails. He recommends paving the principal access road into the Preserve, providing a picnic area, and constructing a visitor center, preferably placed relatively along the margin of the Valles Grande not too far from State Road 4. The visitor center would provide amenities sought by families, while not being too intrusive. It could provide an overlook of the Valles, as well as a platform for night sky viewing.

Kendall's vision of a visitor center is generally in keeping with his view of developing and managing a series of staged access opportunities ranging from facilities dedicated to the casual passerby to remote backcountry opportunities for serious hikers. He does not want to see enhanced motorized vehicle access, primarily because their noise would detract from the quality of solitude that the Preserve can offer. "It's a bowl, and sounds echo in this place" (2417).

Kendall does not feel that grazing is necessarily incompatible with the recreational opportunities that he seeks and enjoys. He believes that the 2008 grazing program, with its 2,000 head of cattle, was successful and that the Valles probably could sustain even larger numbers of cattle without detracting from his enjoyment. Kendall notes, however, that much depends on the personality of the cattle operator and his/her willingness to interact with the public.

Mr. Fred D. Lucero

F. Lucero comes from a family that has been involved in cattle ranching for many generations. He says that he and his older brother (see Orlando Antonio Lucero interview) assisted in the family ranching operations from "Day 1... Any extra time, spare time, just go to the ranch. Got stuff to do" (4869). The ranching way of life informs his views about how the Jemez Mountains' forests should be used and managed.

Although ranching has always been a part of his life, F. Lucero has not exclusively been a rancher. Just as his father and brother, F. Lucero had an outside career: he was a heavy equipment mechanic and commuted to Albuquerque area the better part of three decades to work in the large shops there. To judge from how he talks, however, it is clear that cattle ranching is in his blood. For example, he describes cattle ranching as a lifelong commitment, and he adds that most cattlemen start young and continue working with livestock as long as they can.

The Luceros have built their cattle operation over the years. F. Lucero's father, who recently passed away (ca. 2010), obtained a BLM grazing lease in the Rio Puerco Valley area near Guadalupe decades ago to supplement range lands that the family used in the Jemez area for generations. He subsequently traded this lease for one on BLM land farther west on the north flanks of Mount Taylor. Lucero Family members still maintain grazing permits on San Diego Land Grant in the Jemez Ranger District of the SFNF. F. Lucero, his brother, and a nephew (O. Lucero's youngest son) are members of the San Diego Cattlemen's Association.

The San Diego permit is for summer pasturage only. F. Lucero says that the San Diego Grant is "not good winter range" (4874). He describes the logistics of needing to move cattle between the family's two lease areas as "limiting" (4878) compared to what cattlemen in the south part of the state experience.

Before the USFS acquired the San Diego Land Grant in the 1960s, the Lucero leased grazing rights from a private land owner, Cass Gudner. F. Lucero recalls that Gudner was a good cattleman, who would allow his lessees the freedom to do the work (e.g., spring and corral maintenance) needed to sustain the ranching infrastructure as they saw fit. With the federal government's acquisition of the land, the Lucero Family saw their number of permitted cattle decrease.

When talking about his experiences working the land managers on the SFNF, F. Lucero carefully chooses his words. He describes this relationship as including "husband and wife discussions" (4886), and he expresses the opinion "that the BLM works with the rancher a little bit more" (4969) to form more of an active partnership based on trust. He also finds that it can take longer to get something done on the National Forest, in part, because of the lack of continuity in upper position personnel who set policies and make management decisions. Local

USFS decision makers, F. Lucero observes, are obliged to move from district to district to build their careers. He notes that the BLM does not seem to have as much career movement. He wonders if he and other area residents who have BLM cattle leases are simply enjoying a relative luxury of having the right person in the right place at the area office at this time.

Because he is a cattleman with long family ties of ranching in the Jemez area, it is unsurprising that F. Lucero speaks in favor of policies and activities that would benefit local ranchers. At the same time, it is clear that he is also concerned about development and implementations of a multiple use land management guidelines and practices to protect the environment for diverse stakeholders.

F. Lucero views historical forestry management policies, which have resulted in extremely high tree densities, thick forest canopies, and the build-up of dead and down trees and litter, as untenable. He says that sunlight cannot reach the ground, grass does not grow in the understory, and some places become so overgrown with dog hair pine thickets that they are impenetrable to people even on foot. When wildfires occur, they tend to be devastating because they are indiscriminate. He observes that a crown fire, with its characteristically high temperatures, "cleans everything out" (4923). Such conflagrations, in turn, can result in increased erosion that further damages the land within a burn scar, and can introduce large amounts of silt to the rivers and ponds fed by a damaged watershed. As a consequence, F. Lucero favors initiatives by land managers to thin forest stands to reduce wildfire threats.

Because many timber stands at risk for wildfires consist of trees too small for large-scale commercial logging, F. Lucero favors mechanical thinning followed by programs that encourage people to harvest the resulting slash. He also endorses the use of prescribed burning. Not only do prescribed fires reduce fuel loads, grass grows vigorously in their aftermath.

F. Lucero recognizes that some people have trouble with smoke getting inside their houses when weather conditions cause haze to settle in the valley for several days on end. He commends the USFS for announcing their plans for a prescribed burn sufficiently well in advance so people with smoke sensitivities have plenty of time make arrangements to cope with the anticipated haze. Cattlemen also have plenty of time to manage herd livestock appropriately.

F. Lucero believes that cattle can play an important role in fire fuels management. They

> limit the amount of dead grass... somebody gets something out of it...Places that are grazed..., fires aren't spread as much as places that aren't grazed. [4908]

He also feels that forested public lands next to traditional and historic communities need to be open to the area's residents. As a result, he is not in favor of wilderness management designations that close forests to local people who depend on them. Rather than setting aside large contiguous blocks of acreage, F. Lucero recommends that land managers work to define wilderness zones beyond a half-mile radius of roads that provide local residents with access to the forests and the resources upon which they have long depended.

F. Lucero introduces an overlooked issue of Jemez Mountains land management. Although he does not deny the importance of recreation, he thinks that the USFS fails in its management obligations when it does not provide adequate infrastructure, such as restroom and trash facilities, in the forests where people camp. F. Lucero reports that parts of the Jemez National Recreation Area, which attracts large numbers of people from Albuquerque, Santa Fe, Espanola and Los Alamos seasonally, are littered with trash throughout the summer. Additionally, the Rio Guadalupe, which flows by his home, carries garbage.

F. Lucero has never run cattle on the VCNP and currently has no plans to bid on summer lease rights even though he is attracted by the richness of its pastures:

> It's pretty difficult. They have so many rules and regulations. The actual rent to be up there is pretty high... You have absolutely no access to them [the cattle]. They do everything right there whether you like it or not. [4894]

He concludes, "I'm not going to profit from that. I'll just stay where I'm at... [I'll] just do what I got" (4899). Nonetheless, because he outlines a series of management recommendations of the VCNP grazing program, it clear that F. Lucero has thought about what could be done to make a lease a more attractive enterprise that could benefit local ranchers.

F. Lucero discusses why he would like to see the VCNP become more open to campers. He believes that the Preserve would ease "a lot" (4940) of pressure on the Jemez National Recreation Area. He then offers the observation that the Jemez Valley's local services, including

law enforcement and emergency medical services, can become overloaded by visitors who come to the Jemez National Recreation Area and the VCNP. He states that requests by visitors threaten to place a burden on area residents by competing for limited services. Because Sandoval County lost tax revenues paid by the Dunigan Estate when the U.S. purchased the Valles Calderas, he is concerned that area community members are shouldering the burden for the costs of local services upon which large numbers of nonresidents also depend for their safety and health when visiting the greater Jemez Valley.

Mr. Orlando Antonio Lucero

Just as his younger brother (see Fred D. Lucero interview), O. Lucero has cattle ranching in his blood. If anything, he is even more passionate about being a cattleman, not only as an economic enterprise, but as a keeper of family tradition.

O. Lucero began helping with the family's ranching operations when he was three or four years of age. "This kind of life is great...I love it" (5040). Also, he repeatedly emphasizes throughout his impassioned and thoughtful commentary that his passion for ranching is rooted in embrace of a sense of stewardship: "I am an environmentalist...I'm not going to go out and destroy the land that I need for my cows" (5072).

O. Lucero is well versed in his family's history. Men on his father's side have long been ranchers, who have run cattle on the San Diego Land Grant for many years. The Lucero Family's cattle operations extended all the way to the Rio de los Bacas and Red Top west of the Valles Caldera. Family members leased grazing rights from a private land owner, Cass Gudner, until about 1960. After this time, the USFS acquired the grant and incorporated the land into the Jemez District of the SFNF.

The men on the maternal side of his family, in comparison, were shepherds. They ran sheep in the Valles Grande during the twentieth century when the Bond Family owned the Baca Location No. 1's surface rights.

While ranching has always been a significant part of O. Lucero's life, the family's cattle operation was insufficient for him to depend upon exclusively while he was raising his family. Consequently, he pursued a career off ranch. After his military service, O. Lucero earned a

degree as a gas and diesel engine mechanic, and he commuted to Albuquerque from his home in the Jemez Valley to work for heavy equipment shops in the metropolitan area. All the while, he helped with his father's ranching operations. O. Lucero and his brother purchased ranchland next to their father's Mt. Taylor lease during their careers as mechanics. When his children were largely grown, and he was eligible to retire from the heavy equipment shop in the late 1990s, O. Lucero left his job as a mechanic to become a cattleman full time.

O. Lucero describes the family's Mt. Taylor cattle operation as "a good spread" (5047) that consists of privately owned and land leased from the BLM. O. Lucero, his brother and a son also have maintained their USFS grazing leases on the San Diego Land Grant.

The Lucero men run their cattle together in a cooperative enterprise. After his father passed away several years ago, O. Lucero says (with a smile) that he took over as "the boss" (5051).

Except for his youngest son, who is now in his mid-twenties, neither O. Lucero's children, nor any of his nephews and nieces, are interested in ranching. "I don't blame them... It's hard work... Nowadays there're too many other things" (5036). Nonetheless, with his son's embrace of the ranching lifeway—and the Lucero Family tradition— O. Lucero beams with pride.

O. Lucero not only is committed to his family and his family's ranching tradition, he feels a responsibility toward his community. He served on the Board of the Jemez Valley School District for more than a decade, and he also has been in charge of efforts to maintain the community's church. These senses of obligation and service clearly underlie his commentary regarding the management and stewardship of public lands upon which his family and community have depended, and continue to depend, upon.

He expresses frustration when talking about his interactions with the USFS and the VCNP; he is more satisfied with how the BLM work with area residents. His dissatisfactions with these agencies are based in what he perceives to be a lack of concern, trust, and respect for the people of the local communities. At the heart of the issue for O. Lucero is that the decision-makers within the USFS and the VCNP seldom make little effort to engage with area residents in meaningful ways in planning initiatives. He feels that important public meetings are not always

well publicized, may be scheduled during the workday when many interested community members need to be at their jobs, or involve the placement of a large number of uniformed personnel in the meeting room in ways that can be intimidating. He questions a process in which members of the public are given just a few minutes to express their preferences and/or concerns regarding a complicated issue. Decision makers may be openly dismissive of community members' opinions and concerns, even at times treating local stakeholders as though they are ignorant or unqualified, while openly favoring the views of politically powerful interests outside the area community.

O. Lucero often turns to the topic of the responsibilities among all stakeholders. He emphasizes the point that lessee ranchers have responsibilities, too. He feels strongly that government agencies cannot—and should not do—everything on their own.

The lack of continuity and coordination within agencies, as well as the lack of coordination among the area's different land management agencies, are additional sources of dissatisfaction and concern to O. Lucero. He offers a wealth of insight and perspective throughout his comments about how the government agencies could modify their policies and activities for the benefit of the land they are obliged to manage and their local constituencies. He maintains that the active participation of local community people, who know the landscape and its environment most intimately, is essential.

O. Lucero talks about fire fuels management in the Jemez Valley area. He advocates the use of a variety of programs and techniques, including prescribed fires, mechanical thinning, the removal of slash and dead and down by area residents, limited logging, and cattle ranching as ways to reduce fuel loads in the forests. He also cites the need to maintain these programs over the long term to prevent fuel loads from rebuilding. He stresses that sustainable management is needed, a commitment to multiple land use must be maintained, and each user group needs to fulfill their permit responsibilities.

He discusses the management of the VNCP across a range of topics including the composition of its Board of Trustees, and its ranching, hunting, and fishing programs. With regard to the Board of Trustees, he states there is a need for greater local representation. O.

Lucero offers recommendations to enhance revenues from the Preserve's different enterprises, while reducing the potential for conflicts among the different user groups.

Throughout his comments, O. Lucero returns to the theme that "[o]ne of the main reasons that they bought [the VCNP] was to help the surrounding areas and the surrounding National Forest" (5105). He views this intent has not been fulfilled. First, local communities have seen relatively limited tangible benefits from the VCNP's acquisition. Second, he feels that the combination of increased visitation by outsiders and the loss of the tax base when the Valles Caldera went from private to government ownership have actually increased the burden on area residents.

Mr. Craig Martin

Martin, who is an outdoor enthusiast, author and educator, talks in depth about fire, its role in ponderosa pine forest ecology, and his perceptions of wilderness. He shares his experiences and observations of the 2000 Cerro Grande Fire and his subsequent work with the Los Alamos County's fire fuels management program. Martin offers rich insight about working with the public to enhance their understanding of fire ecology and the need for, and benefits of, fire fuels mitigation on the urban interface.

Martin is an advocate for the reintroduction of fire in the pine forests of the Jemez Mountain. He cites the benefits that fire offers to forest habitats. He calls for prescribed burning whenever possible to reduce the risk of catastrophic wildfire in backcountry settings. He also advocates use of more expensive fire fuels management techniques, such as mechanical thinning and mastication of thinned waste, to mitigate wildfire risk in areas along the urban interface to protect homes and infrastructure.

Martin's comments are invaluable given his rich experience of working with the public to help them understand the need for the implementation of "conservatively aggressive" (2628) fire and fire-fuels management techniques. Through these efforts, Martin has earned the trust and support of a great many people in the Los Alamos community for the measures that he advocates and practices. He offers many salient recommendations in this regard. Martin also effectively discusses the need for a perpetual commitment to maintain both the fire fuels management and public outreach programs. A unifying theme in Martin's observations is that people need to

become accustomed to the idea and the presence of fire in the pine forests surrounding their homes.

Whereas Martin emphasizes the use of prescribed burning, thinning, and mastication in fire risk mitigation in relation to his work, he calls for the simultaneous need to develop complementary land management policies. He states, "Mitigation has a very specific target: to reduce, or to change, the nature of fire when it happens" (2579). Land management policies, such as those governing livestock grazing, logging, and fuel wood cutting, have very different material objectives, but they can contribute to the overall reduction of fire fuels and wildfire risk. For example, Martin believes that the Dunigan Estate implemented some logging activities, which were small-scale initiatives based on a highly selective management approach that yielded practical benefits, during its management of the Valles. Martin's philosophy, therefore, embraces the idea of multiple use within a holistic, integrated management approach. Martin applauds the VCNP specifically for developing the scientific background needed to achieve this kind of goal.

Martin has an ambivalent feeling concerning the Trust's policies that narrowly limit public access to the heart of the Valles. On the one hand, he notes that he prizes the feeling of isolation and solitude that he has experienced when he has been in remote areas of the Preserve; he commends the Trust for making these experiences possible. On the other hand, he acknowledges that there are many other people who desire the opportunity to explore the Preserve. Citing the mountain biker gatherings as an example, Martin suggests that the VCNP might consider developing a management approach that offers different kinds of access through a closely supervised calendar of events and map that tracks uses of different activity areas. This way, various activities, such as mountain biking and hiking, can be segregated, even if they occur on the same day. This kind of coordinated management approach offers the potential to give many different recreationist users opportunities to enjoy the particular experiences they seek.

Martin expresses interest in the rim trail proposal forwarded by Dorothy Hoard (see above), among others. He embraces the idea because it would give the public hiking opportunities with highly prized overlooks of the Valles while minimizing the potential for adverse impacts on sensitive riparian areas in the meadows, etc. He is a realist, however; Martin

observes that a rim trail would require unparalleled cooperation between the VCNP and other agencies, particularly the SFNF, before it could ever become a reality.

Mr. Joseph Anthony Moquino

Moquino is of Ohkay Owingeh (formerly known as the Pueblo of San Juan) through his mother's family. He father is of the Pueblo of Zia, while his paternal grandfather was of Hopi.

Moquino grew up in Ohkay Owingeh. His mother served her community for more than 65 years through her participation in one of its traditional medicine societies. A strong and influential woman, she encouraged her children to pursue their formal education. As a consequence, Moquino did not pursue a pathway to become a member of one of his community's traditional societies. Instead, he describes himself as using his education to serve his Pueblo as a secular public servant.

After serving in the U.S. Navy during the Vietnam War, Moquino earned a degree in Sociology from the University of New Mexico, a Master's degree in Social Work at Arizona State University, and a Master's in Public Health at the University of California at Berkeley. He used this training in a career in the Indian Health Service, in which Moquino earned the rank of Commander, as a hospital administrator.

While the early part of his career took him away from New Mexico, Moquino made it a priority to return to Ohkay Owingeh whenever possible to be a part of certain traditional ceremonies, in which he has participated since the age of six. A few years after returning to the state to be closer to his family and home full time, Moquino was appointed by the Pueblo's traditional leaders in 1987 to serve as it 2nd Lt. Governor. He subsequently served as the Pueblo's Governor in 1999. After his service as Governor, Ohkay Owingeh's elders appointed Moquino to as a permanent member of the Tribal Council. He has also served on the Pueblo's Land and Water Commission for most of the past decade.

According to Moquino, most of his Pueblo's relationships with the Jemez Mountains are primarily religious in nature. Given its great power and importance in Ohkay Owingeh's traditional history and culture, the landscape west of Ohkay Owingeh is particularly significant for the "other livelihood" (i.e., spiritual, not economic, matters) (4265). Given the sensitivity of

the traditional cultural knowledge that Ohkay Owingeh maintains with the Jemez Mountains, Moquino was unable discuss the importance of this landscape's significance other than to say that *Tsikumu* (identified as Chicoma Peak on published maps) occupies a "premier"(4263) place in these relationships. He observes further that the Valles Caldera is a regarded as a "special place" (4282).

Most utilitarian activities, such as ranching and harvesting cedar wood needed for baking bread, took place in the Sangre de Cristo Mountains and their foothills on the east side of the Rio Grande Valley. Nonetheless, Moquino recalls participating in trips into the Jemez Mountains to gather fuel wood, collect piñon, and hunt game. He sometimes also helped his mother and maternal grandfather, both of whom were traditional herbalists, gather plants.

Moquino emphasizes that he has never ventured into Jemez Range simply for recreational purposes. For example, he has never visited the VCNP as a tourist since the Preserve was created. While he has heard generalized stories about the Valles Caldera told by the Holy People of his Pueblo, most of his personal knowledge of this place comes from his reading of scientific and historical accounts.[34] Moquino adds that until comparatively recently, his trips into the Jemez Mountains were always as part of a family or religious group. Over the past 20 years, the Ohkay Owingeh has been making a concerted effort to establish direct connections with places that community members commemorate in the Pueblo's traditional history and songs. When these outings occur, secular community members are accompanied by religious leaders, a practice that underscores the Jemez Mountain's traditional cultural significance.

Moquino endorses the idea of "passports" (4248) with which the people of Ohkay Owingeh would have access to public lands in the Jemez Mountains (and elsewhere) for obtaining the resources needed to maintain the Pueblo's traditional cultural relationships with its important landscapes. In making this recommendation, Moquino shows that he is in favor of his Pueblo developing Memorandums of Agreement with government agencies, including the USFS, the VCNP, the NPS, and the BLM. He notes that the Pueblo harvests only small quantities of

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[34] As a secular member of his Pueblo, Moquino does not have the training and experience that is required for people who are Ohkay Owingeh's Tradition Keepers.

certain resources for its traditional cultural needs and explains that Ohkay Owingeh has no interest in commercial enterprises to extract forest products for profit. Rather, Moquino states that the Pueblo only wants to exercise its right to visit the places that it needs to visit through government-to-government relationships. He stipulates, however, that such MOU negotiations need to be based on trust and respect, whereby federal and state land managers do not ask Ohkay Owingeh to share privileged traditional cultural information with outsiders.

Moquino recognizes the need for policies and programs to manage the Jemez Mountain landscape, including the adoption and implementation of fire fuels management techniques. Speaking specifically of the VCNP, Moquino expresses the opinion that the Preserve should continue to limit access because it is such a sacred place for the people of his and other Native communities. Given the large number of people who would like access greater access into the VCNP, Moquino stresses the need for considered management to maintain its cultural and historical values. His comments convey a belief that permitting overly broad public access and too intensive land uses within the VCNP would disrespect and diminish this landscape of great cultural power.

Moquino talks of promising conversations that his Pueblo has previously had with various government agencies about becoming more active in land management planning and implementation. He understands that that his community needs to be organized and proactive in furthering these negotiations. Moquino feels that Ohkay Owingeh is slowly learning the mechanisms for interacting with federal agencies to express its concerns and needs. He recognizes further that his Pueblo simultaneously needs develop ways to accommodate traditional and scientific knowledge within the community itself. He observes, "When you know the policy, you can make your own statements... more authoritative" (4293).

Moquino speaks of these calls for action within Ohkay Owingeh and between the Pueblo and the various governmental agencies that administer lands important culturally and historically to Ohkay Owingeh with eloquence and sincerity. Even though Moquino still has relatively limited direct interaction with the Jemez Mountains, he has developed a greater appreciation about how they shaped the identity of his community, as well as that of himself as a person, as he gone into this landscape and forged a direct relationship with the places that his community remembers and commemorates. He shares a traditional Tewa saying:

> Learn, learn, learn... In order for us to learn, we have to go into further hallow ground... In order for the people to get the same level of meaning out of life, there has to be some level of exchange... [4318]

Mr. Art Morrison

Morrison has had a widely ranging career with the USFS, with his activities including those of a timber stand improvement crew member, a "smoke jumper," and an official with the Southwestern Region's Public and Legislative Affairs Office. Besides having extensive experience with fire management, Morrison is an avid outdoorsman and hunter. He is well acquainted with the Jemez Mountains area through his recreational activities.

Morrison has fished and skied in the Valles. He has hunted turkey and elk, as well as mule deer, in the Jemez Mountains. He has not hunted elk in the VCNP. Although he has not participated in the Preserve's elk permit lottery, he views this program as a revenue generator that has been unfairly impeded by the State of New Mexico Fish and Game Department and the VCNP's failure to attract a truly national audience for its hunts. Morrison believes that the Preserve should be allowed to handle its hunting program to maximize its returns, just as the Dunigan Estate was able to do as a private enterprise.

Morrison views logging as characteristically being more damaging to the environment than grazing. Nonetheless, considering the dog hair ponderosa stands, he wishes that there existed an economic market for small-diameter trees, such that they could be selectively logged as part of a fire fuels reduction enterprise in anticipation of prescribed burning. "You can't run fire through it [the VCNP] until you've cleared up some of that mess, or else you scorch out the whole stand" (2728).

Morrison views fire as a necessary part of the ecosystem. During aboriginal times, there would have always been smoke in the air due to the frequency of fires in the Southwest.

Morrison questions the economic sense of battling the big catastrophic fires; they are virtually uncontrollable. Instead, he suggests that active suppression should be used on portions of fires that either are controllable or threaten infrastructure. He is in favor of the development of fire management plans that specify the conditions under which natural fires may be allowed to

burn in remote portions of forests. Wildfire management decisions should be flexible and based on local conditions at the time of the burn. He calls upon land management agencies to form partnerships with area communities. This way, the agencies can draw on the knowledge and resources that local communities have to offer more effectively, thereby better equipping themselves to the business of managing wildfires when they occur.

Given the Valles' past land use history, Morrison does not view the Preserve as wilderness. Nonetheless, he finds it beautiful and a remarkable resource that warrants protections that neither the USFS nor the NPS normally affords their holdings. Morrison suggests that the VCNP might be best served by adopting a wildlife refuge management approach. He maintains that even though a principal purpose of a wildlife refuge is to preserve wildlife, it allows for recreational opportunities such as hunting, fishing, multiple use, etc. Citing the Bosque del Apache National Wildlife Refuge as a possible management model, Morrison notes that this Refuge has simultaneously made habitat improvements, created a diverse and functioning ecosystem, and allowed public access.

Morrison recommends the development of cooperative agreements among the adjoining political subdivision land management agencies in the Jemez Mountains area. While he calls for mitigation measures to protect stands of old growth in remote areas from wildfire damage and around urban interfaces, he thinks, "as a practical matter, fire's going to clean up this mess" (2802) in the Jemez's woodlands.

Morrison talks about the media's representation of wildfires. Even though news reports focus on the damages wrought by catastrophic fires, in many cases, much of the burning actually did a lot of good. Wildfires actually present educational moments because there is a good deal of media coverage and the public is paying attention. Morrison wishes that when a prescribed burn is scheduled to take place, the media should be invited out to document the burn. They should also be invited to report on the new growth that has occurred six months after a prescribed burn has taken place.

Mr. Gary Morton

Morton has been a rancher his whole life, with his talent in painting and sculpture being a secondary interest that often draws upon his passion for the "cowboy" way of life for inspiration.

Having lived and run 2,000 head of cattle in the VCNP during 2008 grazing season, he is highly knowledgeable of the Preserve's landscape, natural environment, and administration. Throughout his interview, Morton makes a well-reasoned and impassioned argument for why cattle ranching should be maintained as an integral part of the VCNP's mission.

Morton talks about his having run 2,000 head of cattle on the Preserve for four months during the 2008 lease period. He considers both the successes and disappointments of his experience. Overall, Morton found the positives outweighed the negatives, and he says that he now contemplates submitting a new proposal for the competitive grazing lease rights in the future. Although he would like to see the Trust increase the number of head authorized by the permit beyond the 2,000-head limit that applied during his lease, Morton is so serious in his desire to return to the Valles that he is actively weighing options that would enable him to compete for permits that set substantially lower animal thresholds. Although he says that the VCNP is by no means pristine, the geography and vegetation of this place draw him; he would like to spend additional summers cattle ranching in the Valles.

Morton contends that the Preserve could easily sustain a larger number of cattle without damage to the environment. He offers a number of observations and management recommendations in support of his argument. For example, Morton suggests that nearly the entire acreage of the Preserve should be included in the grazing program, with existing fences being used to rotate livestock among different settings to sustain grass production and minimize the potential for environmental damage by intense trampling. He also talks about how a fire and fire fuels management program could benefit grass production, as well as the forest's ecology

Although Morton believes that "Forage is never going to be an issue" (2880), he readily admits that the hard part, "as far as the Preserve goes, is managing conflict" (2881) between the livestock operator and some recreationists, particularly fishermen. Having identified this issue, Morton offers a number of suggestions that he believes will reduce the potential for conflict. (Morton does not carry false hope that cattle ranching will ever be accepted by all of the Preserve's recreationists, however.) His suggestions include revised management procedures, such as providing cattle access to water in ways that do not compete with fishermen. By expanding the range that the cattle can graze within the Preserve, Morton suggests that the

riparian areas would be subject to less trampling. Moreover, he believes the cattle would benefit from having access to less "washy" forage.

Morton disagrees with suggestions that local ranchers be given preferential access to the Preserve's grazing lease rights. He believes that, because the VCNP is public land, all ranchers should have the right to bid on the Valles' grazing leases. Morton considers the idea of nonlocal and local cattle operators pooling their efforts in support of a cooperative grazing lease program as possibly possessing merit. He recognizes that the VCNP would first need to provide guidelines for implementing a cooperative venture. For example, would all of the participants in such a cooperative enterprise have equal access to the Preserve? Or would only the largest operator(s) have the privilege and responsibility of supervising the cooperative's herd?

Morton's comments are not all strictly limited to the material business of running livestock and managing range land. He suggests that the VCNP could effectively incorporate the Valles' long ranching history in developing materials and activities that promote the Preserve to its national constituency. The periodic scheduling of special events at the Valles that revolve around "cowboy" lifeways would be a draw for people interested in ranching and ranching history. He believes that some of these activities could form the basis of new revenue generating operations, which could benefit the VCNP and entrepreneurial "cowboys" economically.

Morton feels that public access needs to be carefully managed. To the critics that suggest removing all cattle and opening the Valles to more people, Morton says, "If they think 2,000 cows damage it, just turn 2,000 people loose" (2975).

Dr. Tito Naranjo

Born in the Santa Clara Pueblo during the Great Depression, Naranjo was a child at a time that Tewa was still the first language for most of the people of his community, few individuals could speak or write, and visitors to the Pueblo were yet a relative rarity. From these beginnings, Naranjo went on to earn a B.A. degree in Sociology and Psychology at New Mexico Highlands University and a M.A. degree in Social Work at the University of Utah. His professional career included teaching positions at the University of New Mexico at Taos, New Mexico Highlands University (from which he is Professor Emeritus), Northern Pueblos Institute,

the College of Santa Fe, Northern New Mexico College, and the University of New Mexico at Los Alamos. Naranjo is also a sculptor, writer, potter, fisherman, hunter, and hunting guide.

Naranjo remembers his community as being dependent upon its traditional subsistence-based economy of agriculture, gathering, and hunting during his youth. He did not understand when he heard that people back in the eastern United States had no money because of the Depression; he lacked the background and experience to know what a cash economy was.

Naranjo's maternal grandmother owned the family's farmland. The cornfields were along the Rio Grande Valley close to its confluence with Santa Clara Creek. After planting these bottomland fields, family members went to high mesas on the Pajarito Plateau, which forms the east flank of the Jemez Mountains, to plant beans. Naranjo mentions being acutely aware of the remnants of the many old farmsteads and field houses of his forebears throughout the Jemez foothills, knowing that the family's farmlands had been passed from one generation since time immemorial. "We knew that we were doing it [farming] right amongst the people who had lived there and [had] done the same thing... hundreds of years earlier" (4329).

Naranjo talks about helping at his family's fields. One of his chores was to scare away birds. He and other children would often play along the fringes of the fields for the whole day as they watched for pests. Naranjo usually carried a sling; sometimes he used a bow and arrow.

Several times during his commentary, Naranjo referred to the many place-names that the people of his community maintain in the Santa Clara Canyon and other parts of the Jemez Mountains. He would cite these places names to illustrate his point about the intimacy of his Pueblo's relationship with this landscape and its watershed. "We learned the entire canyon system all the way up [from Santa Clara Pueblo] ... to the northeast side of the Valles Caldera" (4348). He speaks of Tsi'ping, an ancestral pueblo at the north end of the Jemez Mountains near the present-day settlement of Cañones.

Naranjo mentions particular locations in the range where piñon tree stands known for yielding large harvests are found. He talks about where deer like to go to browse on scrub oak tree branches and eat acorns in the fall. In addition to discussing the piñon-picking parties and hunting trips in which he participated as a youth throughout the fall months, he recalls making

sunflower stalk snares with willow branch triggers to catch bluebirds and robins in the early spring.

While growing up, Naranjo went into the Valles Caldera to hunt, fish, and hike, as well as to participate in (unspecified) cultural activities. The Valles Caldera is important to the people of Santa Clara Pueblo "[b]ecause there were shrines, because there were medicine plants in there, and because there were animals there that we need" (4371). He has also visited the Valles over the past decade. In contrast to his earlier delight, Naranjo says,

> I was distraught because they had devastated the landscape from when I had seen it in earlier years. The roads...took the wilderness sends out of it. [4373]

Naranjo states that now that the Valles Caldera is owned by the U.S., he hopes that the people of his Pueblo, as well as the members of the other affiliated Tribes, will regain access to this landscape to harvest the medicine plants, minerals, and animals that they need back home. He would like to hear federal agencies, including the VCNP Trust say, "Our hands are off" (4379) and "We won't ask questions, [as] we are going to extend this invitation" (4385). This way, tribal members could go into areas when they need to without having to register their activities, which typically involve culturally privileged information.

Naranjo notes, many governmental permit applications not only ask for culturally privileged information, "the written word kills the power of our ways and the magical powers" (4379) of the Pueblo's various ceremonial societies. He explains that the government-to-government relationship is fundamentally flawed because the federal and state agencies usually talk with only "a secular part of the [Pueblo's] government" (4384). The foundation of the community's government is the Native Government, which cannot talk to anyone about its privileged knowledge. There is a need for land managers to trust Native people to do what is right when it comes to their traditional knowledge and practices.

Naranjo does not expect Affiliated Tribes to be given exclusive access to sacred places within their traditional landscapes. He finds that limitations placed on access are what threaten cultural survival, however. If exclosures are strictly enforced, affiliated communities lose ties to their traditional places. Even if they are not stridently enforced, boundaries put people in the

position of having to trespass to do the things they need to do—and when they need to do it—to maintain and protect their traditional cultural knowledge.

Naranjo offers a number of observations about the natural history of fire in traditional Pueblo worldview. He recites a Tewa phrase meaning, "The mountains are always burning" (4399). He notes further that a favorite song of the Tewa includes the stanza, "Lightning, thunder, and rainwater come, and they all come together" (4399). He adds, "As you accept the rose, you accept the thorn... Lightning sets forests on fire" (4399). Also, "Tewa people have a philosophy of *Seeking Life*... Fires are that renewal of life that we are seeking" (4405). For these reasons, Naranjo has no objections to the practice of allowing forest fires to burn in the backcountry, as long as they are caused by natural ignitions, such as lightning.

Having made these remarks, Naranjo speaks of how the sight of the charred "moonscape" (4402) of the Las Conchas Fire at first filled him with grief for all that had burned. His feelings of tragedy were compounded by the fact that the fire was human caused and the devastating burn in Santa Clara Canyon was the result of an intentional back burn. The knowledge that there will be a profusion of new life in the burn scar over the next few years brings now him hope and joy. Having come to terms with his grief, Naranjo asks, "Why make a big deal out of the Las Conchas Fire when we know that the Earth heals itself?" (4414).

Naranjo observes that land managers' decisions directly affect local communities whose affiliations with the Jemez Mountains are based on traditional land-use traditions. Naranjo would like for land managers and stakeholders alike to treat forests with respect as sacred places, but he realizes that this approach will first require a huge redefinition of base ideas about what is sacred and what is profane. He note that for the people of Santa Clara Pueblo, language formerly taught spirituality and sacredness. Contemplating his Pueblo's widespread loss of its traditional language and the lack of grace now characteristic throughout American society, Naranjo asks rhetorically, "How do you teach people that a place is sacred?" (4427). How do you restore a sense of community?

Mr. Peter Pino

A tribal employee for nearly 40 years, Pino currently serves as the Administrator for his community, the Pueblo of Zia. He has also served his Pueblo as a Council Member, Lt. War

Chief, War Chief, and Governor. Pino has Bachelor's degrees in Electronics and Industrial Education and a Master's degree in Business Administration. As a traditional leader, he holds a lifetime appointment as one of his Pueblo's Keeper of Songs. His traditional side also motivates and guides his farming, manufacture of moccasins, bows, arrows, digging sticks, rabbit sticks and bone tools, and tanning deer hides.

Pino begins his commentary by giving an account of Zia Pueblo's traditional history. He makes this effort to provide context for understanding his community's intimate relationship with the Jemez Mountains, including the Valles Caldera, and its forests. He describes his ancestors establishing Zia Pueblo in its present location because of the river, whose headwaters are high in the heart of the Jemez range. He notes that the Jemez River (as it is known on published maps) at this location to take advantage of its waters fully. That is, the river valley widens at this juncture and that water begins to spread. Pino explains further that water is also easy to divert in this setting because the river not constrained in a narrow canyon, is shallow, and flows slowly.

He emphasizes that even though his ancestors ultimately chose the Jemez River Valley for their permanent home, Zia Pueblo maintains affiliations with various ancestral sites and sacred places within the mountains, including the Valles Caldera. The life of the Pueblo depends materially and spiritually on this range. "We look at the Jemez Mountains as a place where Nature deposits our resources" (4465), including the water that nourishes the land, the plants, the animals, and the people.

Pino talks about how the people of Zia Pueblo traditionally went into the mountains to collect fuel wood and harvest piñon nuts. These activities provided health benefits to the forest even while people gathered resources necessary for their livelihood: the people preferred to cut dead and down trees for fuel as fuel in their homes, and they pruned piñon trees of their dead lower branches when harvesting pine nuts for use at their campsites. Whereas the former practice helped reduce fuel loads in the woodlands, the latter removed ladders of dead branches by which a ground fire might climb into the crowns of piñon trees.

Pino is critical of what he describes as the USFS's "position on saving every tree, every bush, and not allowing any of it to be harvested. It's really been devastating to the health of the

Jemez Mountains" (4477). He cites simultaneous buildup of forest litter and canopy overgrowth, which blocks sunlight from ever reaching the ground, as problems for giving fires an abundance of fuel for sustain a hot burn and the ability to spread through the crowns of trees, respectively. Pino cites the explosive growth of the Las Conchas Fire during its first few hours to support his claim that the forests are overly dense, unhealthy, and filled with potential fuels.

He speaks forcefully against the use of prescribed burns for the management of fire fuel loads in the Jemez Mountains forests for three reasons. First, he feels that the forests are too heavily overgrown and thick with fuels to be safe. Second, Pino has experienced that land management agencies have not worked with this Pueblo truthfully and respectfully in planning and conducting prescribed burns. The third component of Pino's argument against the use of prescribed burns to manage forest fuels involves the waste of wood and other resources, as well as missed sustainable economic opportunities.

To support the first two parts of his critique, Pino cites the example of a prescribed burn in the Jemez Ranger District that burned out of control and cost a firefighter his life. With regard to the third facet of his criticism, Pino discusses how forest thinning projects that can provide area residents with needed employment and/or business opportunities. Toward this end, he advocates the creation of policies and programs that encourage local community members to be a part of the process.

At a base level, Pino recommends that the USFS not charge permits fees if people cut dead and down trees because their activity benefits the forest. Where timber thinning projects are scheduled to be contracted, Pino would like to see federal agencies restructure the contract bid and award processes such that area residents who do not have a "paper education" (4503) can navigate the federal requirements more easily to compete with established commercial firms. He specifically suggests the adoption of a flexible system involving specified contracts for thinning woodland parcels in ways that allow local contractors to learn from their experience. Pino is also interested the development of policies that enable Tribes to co-manage federal tracts within their traditional homelands. He believes that if such policies were enacted, they will help facilitate the reconnection of local Native people with their traditional lands and enlist them as stewards. Their work, in turn, would "give them a sense of ownership" (4499) and pride.

Pino feels that there is a need for governmental agencies to trust the people of local communities. Speaking of Native American community consultations, he asks, "Why can't we just say that's sacred and leave it at that?" (4504). Why must Tribes be asked to explain their traditional views?

He expounds further on the need for government agencies to engage with the residents of all of the local communities within their jurisdictions. Dialogue must be honest, and trust must be developed. It takes time and effort among all the participants. "You don't trust us, and we don't trust you" (4504)

Pino feels that in the case of the Jemez River Valley, each of the traditional and historic communities has valuable insights and perspectives, as well as a common bond of being residents of a shared watershed. The people understand their relationships, including their interdependencies and obligations, in ways that outside decision makers do not. In the Jemez Valley water adjudication, area residents were able to able to identify common ground and propose solutions to their collective challenges.

He does not feel that the Pueblo of Zia has a meaningful relationship with the VCNP. In his experience, Pino has found that the process for the Pueblo to obtain necessary approvals for access to observe certain traditional activities is cumbersome and disrespectful of the need to protect sensitive cultural knowledge. Consequently, the Pueblo of Zia often opts to use surrogate locations on tribal lands rather than deal with the VCNP's invasive permitting process. During the final part of his commentary, Pino discusses some ways that the VCNP can be more responsive to the interests and needs of his Pueblo.

Mr. Tom Ribe

Ribe, who was raised in Los Alamos and has a formal academic training in biology, has a long history of interaction with the Jemez Mountains. The Bandelier National Monument and slopes bordering the west side of his home town have been principal foci of his interest. He also first got to know the Valles, which was then owned by the Dunigan Estate, as a youth. Ribe has a strong background in wildfire risk and fire fuels management. He has participated in many prescribed burns.

In the early part of his interview, Ribe talks about his background and interest in fire, as well as the major factors (e.g., wind, humidity and topography) that influence fire behavior. He states, "Fires really are particular to the places where they are happening...They reflect that place, and they reflect the weather" (3037). Wildfire, he maintains, is "a force of correction" (3066) for past abuses, thereby setting the stage for the landscape to rebuild.

Ribe is critical of outright fire suppression except in instances where infrastructure is threatened along the urban interface. Given their benefits to forests, he calls for policies allowing natural fire events, such as wildfires caused by lightning strikes, to burn across large areas whenever possible. When it is not possible to allow fires to burn naturally, Ribe would like to see fire management teams employ techniques "to herd and steer fires" (3070), not only to protect human infrastructure, but also to burn in ways that benefit forest ecology. He refers to this strategy as one that manages fires on their margins.

Ribe would also like to see much greater use of prescribed ignitions in the Jemez Mountains, including the VCNP. Because mechanical mastication is expensive and unnatural, "Fire has to be the main element" (3095). Burning, once reintroduced, has to be sustained over the long term, lest the forests return to an unhealthy, overgrown state. Speaking specifically of the VCNP, Ribe offers a number of recommendations for fire fuels management to reduce the risk of catastrophic wildfire in the Valles. His underlying concern is that the present condition of the forests is not always conducive to low-intensity burns. Hotter, riskier, fires are needed to kill trees larger than 3 to 4 inches in diameter if the goal to reduce the threat of catastrophic wildfire is to be fulfilled.

Ribe demonstrates his sensitivity to the challenges of wildfire management on the urban interface. Because fire suppression close to homes and critical infrastructure has allowed fire fuels to build, there is a need for fire fuels mitigation programs that prepare properties for the eventuality of fire. In this effort, there needs to be education of homeowners and institutions equally. Ribe maintains that governmental agencies and insurance companies need to require homeowners' compliance. He maintains that people living in or near the urban interface also need to learn to accept the necessity of smoke in the air and low-intensity fires up to their backyard fences, both for the health of the forests and the safety of their neighborhoods.

Ribe shares important insights and perceptions when talking about his perceptions of wilderness. He believes that humans can be important parts of wilderness and that "a lot of... scientifically attuned human resource management is highly appropriate" (3048) in wild areas. He believes that the NPS and the VCNP have been effective in their on-going efforts to sustain biodiversity and ecological resilience.

Ribe talks powerfully about why the Jemez Mountains and the Preserve are important to him. He finds that he has an "almost religious, spiritual connection" (3050) with this landscape. In addition to its great beauty, Ribe describes the Valles' silence and solitude among its greatest assets. For this reason, Ribe is critical of land use activities, including recreational vehicle rides, which do not respect these qualities. He is an advocate of the development of alternative economic enterprises, such as ecotourism, as a way to protect the landscape from development and ventures based on resource extraction.

Ribe believes the Valles Caldera is far too valuable for recreational and educational uses to continue to support livestock ranching or logging as significant commercial enterprises. He allows room for VCNP managers to include sustainable, small-scale timbering and ranching operations in their land use plans. While the former can contribute to the goal of fire fuels reduction, the latter can contribute to maintaining local cultural-historical traditions. These activities also possess the potential to provide information about how to enhance the sustainability of logging and ranching elsewhere in the nation's forests.

Dr. Hilario Eugenio Romero

Although he was raised in San Jose del Vado, which is along the Pecos River southeast of Santa Fe, Romero states that his family has significant historical ties to the Jemez Mountains through his great, great grandfather, Miguel Romero y C de Baca. This ancestor was a first cousin to Luis Maria Cabeza de Baca, whose heirs received the Baca Location No. 1 grant in the Jemez Mountains in exchange for the termination of all rights to their grandfather's 1821 grant on the Gallinas River in northeastern New Mexico (Anschuetz 2007:1). Luis Maria Cabeza de Baca was also Miguel Romero y C de Baca's mentor.

Romero's ancestors, including members of the Cabeza de Baca and Romero families, have tangible ties to the Jemez Mountains by virtue of them settling in La Cienega, which is in

the Santa Fe River Canyon southwest of Santa Fe, and at Peña Blanca, which is on the west side of the Rio Grande near Cochiti Pueblo. Just as his father, grandfather and great grandfather would go into the Jemez Mountains when they were children, his family would take him up the old road that goes from the former Dixon Orchard to access the area now known as the Dome Wilderness to cut fuel wood, hunt, fish, and collect piñon nuts. He recalls that one of his brothers got to fish in the Valles Caldera courtesy of a cousin who had a relationship with the Bond Family.

Romero subsequently retraced these outings as a young adult when he had a small woodcutting business (see below). He still goes into the Jemez Mountains to hunt and fish.

Romero is a historian by profession and avocation alike. He has taught at New Mexican colleges over most of a varied career that includes a year of service as the State Historian on his resume. He prefaces his interview with an in-depth discussion of this family's history and genealogy. This account provides the foundations for Romero's general sense of belonging in the New Mexican landscape. When he talks about his many activities in the Jemez Mountains, he grounds his familiarity and affiliation with this landscape in particular.

To develop these complementary contexts fully, Romero recounts some of the influential lessons that he learned from different members of his family early in life. His father taught him much about the value of community service, while relatives from his mother's side exposed him to traditional farming and ranching lifeways. His grandmothers were influential in shaping his worldview. His maternal grandmother encouraged him to take pride in his Jicarilla and Ute heritage. She also helped him to understand that people who showed prejudice toward him because of his darker skin were *ignorantes* (ignorant people). His father's mother, in comparison, was *mística* (mystic) within the traditional practice of *curanderismo*.[35] She provided him with a holistic perspective.

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[35] As explained by Tafur and others, "*Curanderismo* is a term referring to the Spanish word *curar*, meaning to heal,' and used to describe the practice of traditional healing in Latin American (Hispanic) cultures" (2009:82, citing Trotter and Chavira 1997, with emphasis in original). As Romero explains, his grandmother's work in *curanderismo* was as a *mística*

These varied life lessons have shaped Romero's passion for learning, his advocacy for equality, and his activism in support of community rights. In addition, to Romero, not only is everything connected in essential interrelationship, "History is the *history* of everything" (5233).

To earn money to support his way through college, Romero had a small woodcutting business. He talks about going into the Pacheco Canyon area of the Jemez Mountains above the community of Peña Blanca. He ascribes to the traditional ethic of never cutting a live tree for fuel wood unless, perhaps, it is diseased. He used a double-edge ax, bow saw and gloves, and he would harvest a variety of tree species, including *sabino* (juniper [*Juniperus monosperma* {one-seed juniper}]), piñon, and *cedro* (cedar [*Juniperus scopulorum* {Rocky Mountain juniper}]). He refers to *partiendo leña* (splitting wood) as his "Zen" (5248) He attributes his ability to split wood easily and efficiently using the precise placement of power, not the use of great raw force, to practical understandings shared with him by family members.

While acknowledging that Hispanic land grants and Pueblo grants are politically and socially different institutions, Romero stresses that they share a "land ethic" (5263). This tenet is rooted in the principle that a community's land base is a "sacred trust" (5263) predicated on the obligation of stewardship of the land and its resources. If community adheres to this stewardship principle, then it can fulfill its obligation to maintain the productivity of the land base with it is entrusted for the generations to follow.

Romero talks about the traditional Hispano system of land management. He discusses the practices of land and water use that underlie the definition of the narrow strips of land tenure visible today among historic Hispanic land grant communities. He describes how these land use practices were framed by a community's understanding of how water flows through its focal watershed. "Everything focuses on this—daily life" (5279). "*Sin no hay agua, no hay vida* [If there is no water, there is no life]" (5280).

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because she emphasized the spiritual side of curing, even as she worked with native herbal remedies.

Romero recounts the great loss of Hispanic land grant acreage, much of which has been incorporated into the National Forest system, since the latter half of the nineteenth century. He talks about the consequences that this alienation has had on the residents of the communities that traditionally depended on these lands: "The thing that is so sad about that is people lost their survivability; they lost their ability to sustain themselves" (5282).

He is critical of the USFS because the agency, from its inception, has tended to recruit most of its leadership from places other than the communities it serves. Romero talks about Aldo Leopold to illustrate his remarks. Leopold enjoyed a privileged lifestyle and background, as opposed to the rural New Mexican populations, who struggled just to survive. Leopold lacked the concern and reverence for the forest's resources. History, Romero contends, documents that the health and well-being of the forests have deteriorated have under the USFS's administration. He says that the forests "basically got closed to the public" (5290), displacing hundreds of New Mexican families who lost their traditional way of life. Oftentimes, residents of the former land grant communities had to take jobs working for large timber and mineral companies. Romero points out that these extractive industries, which operated contrary of the traditional land stewardship ethic, adversely impacted the former commons of many land grants.

When asked about contemporary forestry management policies and practices, Romero responds by talking about the need for local residents, who know the area's forests, to play an active part in the development and implementation of planning initiatives. In his opinion, it doesn't matter if area residents don't have advanced degrees in forestry; what counts is their traditional, intimate knowledge of the local forest. Romero adds that he would like to see the hiring and retention of area residents in the Forest District offices because they can introduce the knowledge that "comes with the land ethic" (5294) that is well-suited for particular localities.

Romero recommends the adoption of management models based on the earlier Civilian Conservation Corps approach, which blended solid management practice with an educational component. These two elements, in combination, can provide important opportunities for young people to be part of the landscape upon which their families traditionally depended. Romero suggests that their labor could be used to thin forests of excess growth and fuel in ways that are far more predictable and safe than prescribed burning. (Romero is an outspoken critic of prescribed burning because he believes that today's forests are already too thick with fuels for

this practice.) He envisions a CCC-like program that would look at wildfire, landscape, forest products, and watershed management holistically. In addition,

> You make it permanent...Make it something for the future, to carry on generation after generation. You make it sustainable. [5296]

Talking of the VCNP, Romero feels that its best use would be as "a giant outdoor classroom" (5301) in which young people can be educated about Nature by being in Nature. This way, he reasons, young people can have opportunities to see "how they can be part of it [i.e., Nature] and make it better" (5298).

In the latter part of his commentary, Romero offers a number of recommendations. The first is for the VCNP to make parts of the Preserve a wilderness area with restricted access and use. The second is for the livestock program to make a commitment to serve local ranchers such that the Valles Caldera's rich grasses do not go to waste, while simultaneously promoting local ranching traditions. The third is to use the Preserve as part of the land base needed for the reintroduction of wolves to the Jemez Mountains ecosystem. He also favors developing policies and programs that keep the dollars spent at the Preserve in the local economy.

Drawing on his experience in writing and administering community grants, Romero outlines a strategy whereby the Preserve works with area ranchers to develop a sustainable livestock program for the benefit of the Jemez region. He maintains that the natural environment and the local economy can benefit, all the while maintaining traditional ranching knowledge. Romero suggests further that through inter-agency collaboration, the Valles Caldera's applied management education programs can be used to develop models that the USFS and other agencies might then adopt for their own purposes elsewhere.

Mr. Gilbert Sandoval

Sandoval traces his family having lived in the Jemez Springs area since the "Queen [of Spain] titled land" (5326) to ancestors in his matriline.[36] He notes that under the traditional

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[36] Sayles and Williams (1986:105) reports that the Cañon de San Diego Land Grant was granted in 1798 and consisted of 116,286 acres.

Hispanic land grant tradition, parcels were designated for habitation, with the main body of a grant being set aside for the sustenance of the people of the community. That is, communities comprised both settlements and backcountry areas of grazing and forest land. U.S. government surveys in the latter part of the late nineteenth century did not confirm all of the Spanish Colonial period land grants, however. The U.S. Territorial Period, as a result, saw the beginning of the loss of traditional community land tracts and the alienation of the residents of historic villages from their traditional land base.

His ties to the Jemez Mountains' forests are not just historically based. Sandoval's relationship has aspects that are rooted in long-lived cultural traditions and personal experiences as a private individual and a USFS employee. Through his comments, it is clear that the Jemez Mountains are an inseparable part of who Sandoval is as a person. Not only does he believe that people need to retain their traditional access and use of the forests for their sustenance and enjoyment, he finds that this relationship is essential for one's "mind, body, and spirit" (5451).

Sandoval had a long career with the USFS in the Jemez District of the SFNF and is a third generation USFS employee. His grandfather was a seasonal worker stationed at the Jemez Springs District office, while a great uncle managed the Cerro Pelado Lookout Tower during the fire season. ("Tio Pedro" also worked for a logging company during the off season.) His father was a career employee in fire management. He managed the Bear Springs Lookout Tower in the Three Peaks area west of Pariza Canyon.

Sandoval worked in a number of capacities with the USFS during his tenure. He began his career "cruising" to mark timber for commercial loggers. He was always fascinated by the process of determining timber values, whose calculus included the grade of timber, and the costs of logging (including equipment), transportation, milling, curing, etc. The cruisers also determined how often particular areas in the Ranger District would be opened for logging. Sandoval states that managers used logging as a technique to enhance the quality of the forest by preventing overcrowding and removing unhealthy trees.

The USFS ended its commercial logging program in the early 1970s. Sandoval attributes the shutdown of this industry was, in large measure, a response to pressure exerted by environmentalists opposed to logging. With this change, Sandoval went into fire incident

management, a position that he held until his retirement. During his latter service, Sandoval was involved in the management of the Cerro Grande Fire, which burned in 2000.

Sandoval feels that the USFS has received unfair blamed for the devastation of Jemez Mountains' forests by commercial loggers on private land holdings during the middle part of the twentieth century. In the absence of sustained, managed timber enterprises in the Jemez area over the past four decades, however, Sandoval has seen the health of the forests degrade and the risk of ever-greater conflagrations rise as fuel loads have climbed.

Sandoval feels that there effectively has been "no management... in the forest" (5384) over this long span. He talks poignantly about how "it hurts" (5413) when he looks at the forest today. He is saddened by the loss of employment for local residents whose families had depended on commercial lumber operations, the loss of income for funding habitat restoration projects beneficial to forest health and wildlife populations, and the ever-growing risk for devastating wildfires.

He is dismayed by how well-intentioned, albeit uncritical, policies to prevent damages of the sort caused by large, unregulated extractive timber, mining, and ranching operations on private land holdings have caused harm in their own right. "Abandonment is not management, and literally, that's what we've done to the timber resource" (5385). He feels that those who are unrelentingly opposed to extractive activities in the forests are blind sometimes to what has worked in the past. Their unwillingness to acknowledge that their policies have contributed to the many problems plaguing the forests today exacerbates the problem.

In response to what he views as the alarming buildup of fire fuel loads in the Jemez Mountains' forests over the past four decades,[37] Sandoval favors use of a combination of techniques to thin forests. He discusses sustainable logging, prescribed burning, and grazing in his commentary.

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[37] Sandoval estimates that fuel loads have increased from 20 tons per acre when he was a youth to something like 120 tons per acre today.

Sandoval endorses a renewal of the timber industry because good management can allow people to make use of valuable resources when they are ready for harvesting while contributing to the long-term benefit of the forest. He cites a variety of economic, ecological, and spiritual factors in support of his opinion.

For example, Sandoval maintains that the timber industry provided good paying jobs for area residents, gave the USFS's district offices monies that they typically for wildlife habitat restoration, and contributes to the local tax basis for schools, roads, and other services. He shares his belief that there is a market for timber products from New Mexico's forests—"Look at the price of lumber at Home Depot" (5441)—commercial timber operators are burdened by high regulator costs and the loss of critical infrastructure, including mills and the deterioration of roads.

Regarding its ecological benefits, Sandoval credits logging, when conducted under professional management, for opening forest canopies, reducing the accumulation of ground litter, creating wildlife habitat among open stands of age diverse trees, and enhancing the genetic stock of the tree populations. He suggests further that logging activity can actually reduce some erosion problems associated with old roads because operators actively maintain infrastructure.

The spiritual aspect of Sandoval's call for a renewal of the logging industry lies in his belief that God offered human beings forest resources to use for their sustenance. Although he is critical of decisions not to log in the National Forest, he retains an optimism grounded in his deep faith:

> God has His own ways of cleansing [the forest] ...He offered us those resources to use for our sustenance, but we've refused them for our own detriment. But I think that God loves the world enough that he's going to do His own cleaning, and fire is His tool. [5469]

Sandoval adds his belief that God will eventually restore the forest, even if Man declines to be His agent of restoration.

Sandoval talks about the need for prescribed burns because of current high fuel loads. Based on the context of his remarks, however, it is clear that he favors prescribed burning as a

technique that should be used in combination with logging. He emphasizes the benefits of fire in releasing nutrients stored in biomass several times during his commentary. When he observes that fire is "part of Nature's way of healing itself" (5400), Sandoval acknowledges the natural role of in the Jemez Mountains ecosystem.

In Sandoval's opinion, grazing is beneficial to forest habitat because it effectively reduces the amount of dead grass. Cattle, therefore, can be useful in making a woodland area "receptive to a low-intensity burn" (5400).

An egalitarian ethic is built into Sandoval's spirituality. Use of the forest and its resources is for individuals, not just commercial businesses. He speaks in favor of land management policies that sustain the multiple use principle: "There is room in the forest for all interests without disregarding other people" (5485). In fact, Sandoval states that he "thought that multiple use was the answer to all conflicts" (5486) when the USFS first adopted this principle to guide its land management policies early during his professional career.

While he feels that the forests should be available for everyone to use, he stresses that this privilege comes with the obligation of each stakeholder to take part in their stewardship. At the core of his environmental ethic is the belief that the USFS's stated mission to care for the land is shared a responsibility, not only an obligatory government service. For example, he suggests that people who use roads to reach the forests' backcountry areas have the responsibility to help maintain thee routes when they see problems, such as a water bar in need to maintenance, developing. On the other hand, he views land managers as also having the responsibility of engaging local communities "to become part of the decision-making process" (5475). Sandoval is critical of the USFS and other government agencies for not appropriately valuing the insight and experience of area residents who are most knowledgeable of local conditions.

Ms. Georgia W. Strickfaden

Strickfaden, a life-long resident of Los Alamos, owns and operates a small, local tour company, Buffalo Tours. An outdoors enthusiast, she is intimately familiar with the east margins of the Jemez Mountains, having hiked and horseback ridden in this area nearly her entire life. Although not formally trained in biology, she enjoys observing local plants and animals.

She also has interests in local history. Strickfaden has a deep emotional attachment to this landscape and is highly cognizant of her community's place within it.

Strickfaden recounts growing up in Los Alamos in the introductory part of her interview. Speaking of her outdoor adventures in the forests surrounding the community, she is very aware that the forests, which she used to explore freely during her youth, are now much more overgrown and pose significant fire dangers.

Strickfaden recounts Los Alamos' history with wildfire, including the La Mesa (1977), Dome (1996), and Cerro Grande (2000) burns. She describes the trauma and tremendous sense of loss that she felt when dealing with the consequences of the Cerro Grande Fire to her home, the Los Alamos community, and the surrounding landscape in moving detail. She says, "Grief is hard work" (3337). To compound matters, Strickfaden feels that there was no immediate escape: the forests in which she had formerly sought refuge no longer exist. "It really wears on you seeing the killed forest right there where there used to be living green things" (3358). Only once she drives beyond the burned areas into the greenery of intact woodlands, "the weight and the reminders of the stress" (3362) of the Cerro Grande Fire melt away.

Strickfaden recounts incorporating tours of Los Alamos' burned neighborhoods into her business operations, initially in response to requests from her clients. She talks about her realization that these tours not only provided her with an opportunity to teach the public about wildfire and the responsibility of people living on the urban interface to take responsibility for protecting their property from wildfire, they helped her in her own grieving process. With time, Strickfaden has begun to appreciate seeing the rock formations that were visible on the mountain slopes that were exposed to the people of Los Alamos for the first time by the Cerro Grande Fire.

Strickfaden would like to see the VCNP remain relatively undeveloped, even though she acknowledges that it is not a pristine wilderness given the intensity of its past uses for livestock and logging. She advocates a kind of staged public access, including drop off points for backpackers, snow tractor rides during the winter, and vehicular tours that would give people tours through the Preserve in comfortable vehicles. She thinks there should also be opportunities for overnight (primitive) tent camping; however, she does not want to see RV's and RV infrastructure being allowed into the VCNP.

Strickfaden believes that education should accompany recreation in the Preserve. For example, she recommends that the VCNP begin planning prescribed burns to coincide with the Albuquerque International Balloon Fiesta schedule each fall. This way, the Preserve would be able to conduct an annual educational program that would draw upon a diverse audience from across the United States (and beyond) for a demonstration of forest ecology and the essential role of fire in sustaining this pine forest ecosystem.

Strickfaden is critical of the VCNP for not being a better neighbor in the Jemez Mountain community. People would like greater opportunities to access the Preserve. The VCNP has neither the staff nor equipment to fulfill these requests. Many local businesses would supply the staffing and equipment. Strickfaden believes that the VCNP could partner more with local businesses, which can help provide controlled access, educational information, and recreational experiences to the public for the benefit of all parties. The VCNP and local businesses could then share in the revenues. Strickfaden, however, emphasizes, that these opportunities need to be developed equitably, such that the larger businesses with larger vehicles do not receive unfair competitive advantages in accessing the Preserve (such as in the form of lower average per capita entry fees) than smaller operators who operate smaller vans.

Mr. Porter Swentzell

Now 30 years of age, Swentzell describes his experiences growing up in the Pueblo of Santa Clara as being more like those of his grandparents' generation than his own because his immediate family grew much of its own food. They also lacked the amenities of running water and electricity for many years. Not only was his mother, Roxanne Swentzell who is a renowned artist, a single parent, she was still struggling to establish her career. Additionally, Roxanne is a committed permaculturalist. She made a purposeful decision to raise her children within a permacultural ethic. Swentzell explains that permaculture "drew [his mother] in" because it relates "to our Pueblo past and the belief of sustainable agriculture, sustainable lifeways" (4561). Rather than simply taking ideas from the international permacultural movement, however, his family "took ideas [about agriculture] that were in the Pueblo way of thinking" (4562) and applied them.

The influence of his early life experiences is readily apparent in how Swentzell is defining himself as an adult. He has known from an early age that the community's traditional life would always be an important part of who he is. Committed to remembering and celebrating the history and culture of the Santa Clara Pueblo, Swentzell is fluent in the southern Tewa language dialect, composes songs for his community's ceremonies and is a singer in these proceedings, and has conducted research of traditional Tewa place-based knowledge at the College of Northern New Mexico as a student and an instructor. His community's traditional homeland includes the Jemez Mountains.

Swentzell states, "The Jemez Mountains [have] always been important, but maybe not in a conscious way" (4580). He talks about his spending extended portions of several summers on the family's traditional farmland in Santa Clara Canyon near the ancestral village of Puye. Family members cut wood, collected piñon nuts, and harvested various native plants. Swentzell did not think about his relationship with the Jemez Mountains in an abstract way; based on his experience, they were "*the mountains*" (4581). "They were always there. They were *the mountains* that you looked at when you woke up in the morning" (4582).

He talks about how his family would cut standing dead trees for fuel, taking care not to damage nearby young trees. His family also harvested branches, even blocking 3-inch diameter stems in the field, for use back home as kindling. They took time to place downed branches around young trees to help them hold soil and capture water, or to protect them from wind damage. Swentzell tells about his family charged the children the task of gathering firewood for use in their camps when they went into the forests to collect piñon nuts: "Gathering wood was a process of walking around, cracking off all of the low-level dead branches" (4594). He describes this activity as "Part of the process of caring for the forest in a way that's not so obvious" (4595).

Swentzell is an advocate of people having access to the forests for the needs of their families. He describes how his Pueblo regulates use of its forest use through a process in which people participate in community work projects in exchange for some permits, such as wood cutting. Swentzell likes this management system because it promotes community participation, while simultaneously celebrating age-old traditions. One of these traditions is that of community members sharing the responsibility of taking care of the place in which they live.

Noting that public lands are shared by—and belong to—the people, Swentzell extends the stewardship ethnic that underlies his Pueblo's community work projects and applies them at a broader scale. He feels that people who depend on the forests need to care for them. Not only would the land benefit from their involvement, people would be less likely to harm something that they have a stake in.

Swentzell thinks that the Western abstraction of the idea of *Nature* is a part of the problem. He feels that the Cartesian system teaches that people are special and superior to their environment. The Pueblos, in comparison, emphasize the interconnectedness of people with everything else in their landscapes. Swentzell states,

> People have a duty to the natural world...There's no such thing as a nonhuman environment. Every last inch of the land was modified and altered by people moving around, but working at a level that was not destructive. [4609]

He concludes, "When we're out there..., we must behave in the same way and modify the environment in a way that is beneficial to us" (4610).

He views the history of fire suppression by U.S. government agencies is a good example of the failure of good intentions. In the past, when forests were healthier and less crowded because fires were a part of the ecosystem and people practiced their community-based land management traditions, fires apparently were seldom as devastating as those experienced over that past four decades. "Fire has an important aspect for cleaning, for curing, and also, in a hidden sense, for life as well: the cycle of life" (4626). Policies instituted by the U.S. government to protect the forests from wildfire over a span of more than a century, however, are now contributing to terrible conflagrations, in part, because of the buildup of fuel loads.

Wary of likelihood that people can affect the future profoundly in ways to correct their past mistakes in forestry management, Swentzell is unsure if there are really any good options available. For example, he observes that the thinning of the forests through mechanical operations "is not really replicating a natural cycle" (4629). He wonders if perhaps Nature ultimately needs to reset the clock so the ecosystem can start anew.

In response to questions about restoration programs following catastrophic forest fires, Swentzell offers a somber observation, "We might have to change our perception of what the land is supposed to be" (4635). He wonders if recently burned forests are better suited to be open mountain rangelands, with grasses and shrubs under the present-day conditions that we're experiencing. If so, then people need "to reevaluate our relationship to that changed landscape (4635)." He suggests that it might not our job to plant new trees.

Swentzell calls for greater involvement of area residents in the management of local forests. Community participation, he maintains, is not just a bureaucratic matter. Management needs to be both a personal and collective process. Swentzell offers a number of recommendations, including the implementation of governmental programs resembling the Civilian Conservation Corps. He suggests further that society might draw people into "the honor" (4643) of participation by the fostering the ideas of community, service and obligation, as well as encouraging people to take responsibility.

He closes his discussion by sharing his thoughts about the uses of the VCNP and the relationships that he has experienced between members of his community and the managers of the Bandelier National Monument and the VCNP. He emphasizes the needs for communication and engagement based on respect and trust that do not ask Tribes to divulge culturally sensitive information. He finds that the agency's Tribal consultation programs, as they are currently conducted, are too bureaucratic and limited in scope. He adds that Tribes, in turn, possess the responsibility not to abuse whatever privileges they might negotiate in these proceedings.

Mr. Don J. Usner

Usner has a background in biology, environmental studies, and cultural geography; he understands fire ecology and the relationships that people maintain with wild lands. He is an established author and photographer; one of his recent works is a book of essays and photographs about the VCNP that he developed in collaboration with William de Buys (de Buys and Usner 2006). Usner was raised in Los Alamos, and he developed an intimate relationship with the forests around his community during his childhood.

Usner has experienced two devastating wildfires. The first, the Rat Creek Fire (1986), occurred early in his adulthood when he was the caretaker of a nature preserve in the Big Sur

area of California. The second wildfire, the Cerro Grande Fire (2000), burned his family's home in Los Alamos. A major topic of Usner's interview discussion, therefore, concerns his academic and personal relationship with catastrophic wildfires within landscapes that he knows intimately. His discussion of the disjunction between his academic understanding of the benefits of fire within a wild and functioning ecosystem and the sense of great personal tragedy and loss when it burned through his beloved landscapes is heartfelt and moving.

As a child, Usner recalls the people of Los Alamos were "paranoid" (3449) about wildfire. Through his academic training and experiences serving as a fire lookout during the summer while he was in college, he learned that wildfire is a natural and necessary component of functioning ecosystems. He soon formed the opinion that "we should let fire burn whenever possible, as much as possible, because it's good for the forest, plants, and animals" (3470). While working at Big Sur, however, he became aware of the contrasting academic and personal perceptions of wildfire on the landscape. Although people living along the urban interface with forested lands are fearful about the prospect of wildfire, Usner also believes that they generally "are in denial about the overgrowth and potential for a large fire" (3485).

Speaking of his own experiences with the Rat Creek and Cerro Grande fires with the benefit of hindsight, Usner admits that even he, despite all of his academic and practical training in fire ecology, "was convinced that it couldn't happen, the big one" (3491) in the days leading up to these conflagrations. He speaks of the personal feeling of devastation that he experienced when long overdue and ecologically necessary wildfires became "his" fires.

Usner believes that people's perceptions of wildfire are significantly shaped by media portrayals of wildfire. These accounts characteristically focus on the sensational—trees exploding with fire, homes burning to the ground, and people shown in states of raw grief. He notes further that the words and images used by the media to report the news of a wildfire are purposefully selected to fuel emotions of loss and helplessness in the face of nature's wrath.

Usner speaks about why the VCNP is held by so many people with such regard. Although it has been heavily utilized by people over its history, the beauty of the Valles' physical landscape, invokes a sense of awe. He maintains the great affection that people have for the Valles is not only about its environmental setting, however. During interviews that he has

conducted, Usner reports that people remark that the light in the Valles is itself beautiful. "There's a special quality of it. I think that it elevates it" (3624). That is, the quality of light afforded by this high altitude setting contributes to the Valle's sense of inspirational awe.

Usner expresses frustration with the management of the VCNP; he finds access much too restrictive given that the Preserve is public land. While he does not advocate uncontrolled access, he would like the policy to be more flexible, such that visitors can be more in control of their own experiences while visiting the Valles. Although Usner is not necessarily in favor of the VCNP issuing back county camping permits, he says,

> I think a person should be able to walk, drive up there, [and] park their car at the trailhead. Carefully conceived so you don't have cars everywhere. The idea I like the best is to have perimeter access points around the natural basin. [3631]

Usner's desire to experience the Preserve early in the morning and early in the evening when light conditions are at their very best and wildlife have not yet taken shelter from the coming day, clearly underscores a major part of his critique. He longs to be able to go out, sit and observe for the surroundings for hours, and watch the day go by. His call of greater, albeit controlled, and more flexible public access also rests on his call for the VCNP to give more attention to the wishes and needs of its constituency. He maintains that the Preserve would better serve its own interests, because there would be so much more "public support, interest, and engagement" (3656) if the VCNP would allow people greater access.

Usner makes a number of recommendations for operating the Preserve. Foremost, he encourages the VCNP not to closely adhere to a NPS management model. (For example, he believes that the Yosemite National Park allows for too much public access.) Instead, he promotes the idea that the VCNP should make the most of its legislative mandate and status as a National Preserve to contract with private businesses to bring people into the Valles as part of local business enterprises, just as the Valles is already working with local logging and ranching operators to run other commercial interests. This way, the Preserve benefits by having private businesses share in the responsibility for managing visitor access and experience. The VCNP would also receive income through resource use leases and service contracts. (Usner, however,

notes that for such programs to develop effectively, the VCNP needs to become part of the federal government's insurance pool.)

Speaking directly to the issue of the tension between environmentalists and cattle operators, Usner offers another recommendation. He notes that local ranchers are good people who have waited a long time to have access the green pastures in the VCNP. He adds,

> If you're going to have a grazing program, why not have it with multiple benefits, generate good will?...There's a big unnecessary conflict between ranchers and environmentalists...If you had fewer cows out there—from local ranchers, who actually care about the place, have a relationship with the place—I think it would be much more tolerable by the environmental-minded people. [3667]

Mr. Roberto H. Valdez y Herrera

Fascinated with geography, maps, and the landscape traditions of his ancestors, Valdez is currently combining all three passions in M.A. degree in Geography at the University of New Mexico. In his thesis, Valdez is using twenty-first-century Geographic Information Systems (GIS) computer and software technologies to document the traditional place names—and the stories that underlie them—of the traditional and historic Pueblo and Hispanic communities in the Chama Valley and the northern part of the Jemez Mountains. Valdez maintains that his work demonstrates the people's traditional, historical, and continuing intimate connections with the land.

Valdez lives in Espanola. Through members of his mother's family in the Cañon de Coyote area, he has developed a close relationship with the northern half of the Jemez Mountains landscape.

When he was younger, Valdez would spend summers with his maternal grandparents who owned a ranch that had been established before the end of the nineteenth century under the Homestead Law. During these summers, he helped family members wrangle their cattle, which usually numbered between 8 and 16 head, in their Jemez Mountains pasturage. While the cattle were grazing, Valdez would roam across the mountain, exploring places mentioned in the stories

that relatives shared with him. He recalls going to Cerro de la Garita to look down on the Valle San Antonio during one of his backcountry explorations. Valdez notes that his family seldom went to the Valles, however, because of how the land had been fenced and allocated since the early 1900s. He explains,

> The connection they [his family members] seem to have the most with is traveling along the western side of the Baca Location Grant and to La Cueva and Jemez Springs. There's memory with that place because of the Hot Springs, because of the strange things to see there—Soda Dam and so on. [5546]

As he has grown older, Valdez has continued to assist an uncle, who inherited the family ranch, and other ranchers from Coyote in taking their cattle into the mountain in the spring. He worked with the USFS in 2004 and 2005 as a member of the survey team that worked "to monument" portions of the VCNP boundary, including the locality called *Ladera de las Lajas*, ("Ladder of Large, Thin Stones," near Turkey Ridge) at the northeast margin of the Preserve (5555). Valdez continues to exercise his passions of geographic exploration and cultural-historical connection by traversing the Jemez Mountains on a motorcycle to see the places that he has learned about through the traditional stories he has heard from family and neighbors, or has documented during his academic studies.

Valdez has a number of other interests, including genealogy, besides geography. He has traced the arrival of his ancestors in the greater Espanola Valley region to the year 1600, which is just two years after Oñate founded the New Mexican colony in 1598. He has identified other ancestors who came into northern New Mexico during recolonization effort that accompanied Governor Don Diego de Vargas' Reconquest of the New Mexican territory for Spain in1692.

Valdez is also a dedicated reenactor. He makes items of traditional Hispanic material culture using customary materials and methods for use at El Rancho de las Golondrinas Living History Museum near Santa Fe and in his own independent history film projects. For example, Valdez tans deer hides using *honchera* (bright golden brown cubes of rotted wood from the centers downed logs) to make leather strap, which an essential resource in traditional Hispanic

lifeways. He also talks about collecting *piedra alumbre* (rock alum) for use as mordant in dying wool yarn, which he weaves on a loom inherited from his grandmother.

Since his youth, Valdez has cut wood for heating homes. Having converted the gas heater at his Espanola residence to wood, he gathers fuel wood each fall for his personal use. While he formerly used to cut wood in the Jemez Mountains, usually above Coyote, he now prefers to go to Lindrith because this area suffered a huge piñon tree die off back in 2002. Valdez prefers a mix of trunk wood and branches, as well as an assortment of dried dead and down wood (with the bark still attached) with smaller amounts of wood from live trees.

Valdez remembers that his family picked piñon nearly every year while he was growing up. He notes that he sometimes still gathers pine nuts while he out in the forest to cut wood. Valdez learned about grasses that are good for pasturage and various native plants that have medicinal uses from his grandparents and other relatives.

Although he is still a young man, Valdez reports seeing how people's attitudes and relationships with the Jemez Mountains' forests and resources have undergone change over just the span of his lifetime:

> I remember a time when gathering wood...or gathering rocks by the side of the road, you didn't have as much fear. Now you're always looking over your shoulder because the prevailing attitude in society since the '70s is, 'You have to have permission for everything.' People traditionally went about their business doing what was needed...Today, however, people are fearful that they will be ticketed or fined. [5569]

He recounts having once received a warning from a NPS Ranger for collecting *honchera* along a road right-of-way inside the Bandelier National Monument without a permit. Although Valdez was not fined for his trespass, he was required to return the rotted wood cubes to the dead log from which he had harvested the resource.

He notes that many Hispanic "agropastoralists" in rural northern New Mexico, including his family members, "are still holding onto fragments of their lifestyle" (5587). In continuing to practice these traditions, they maintain valued cultural knowledge that has been handed down

from one generation to the next over a span of more than three centuries. "This is the kind of lifestyle that people want to live and hold onto, and [they] find themselves under siege" (5588).

His *honchera* gathering experience fuels Valdez's distrust of the various agencies that manage the mountains' resources. He feels that land managers today disregard the values and needs of the regions' traditional and historic communities. He recalls his grandfather, although he was born in 1919 after the establishment of the USFS, would talk about the time before the agency "as though it was a time of yore—'*no había floresta*'—and you were able to make certain decisions" (5585). Valdez believes that his grandfather was expressing just how very constricted and directed he felt during his interactions with USFS personnel.

Valdez talks about the mission of the Northern New Mexico Heritage Area[38] as being the preservation of "the way of life here" (5593). He observes that this region is the home to culturally diverse communities of people, including the Mountain Hispanic and Pueblo Indian. Within this cultural milieu, he advocates local governance, which he believes might be more sustainable, as opposed to large government, in which "one size fits all" (5593), is imposed from afar.

Besides being critical of monolithic administrative policies that are dismissive of local community cultures and traditions, Valdez is against proposals and actions, such as road closures and burdensome permit requirements for area residents who rely on forest resources, including dead and down wood. He is also concerned that some traditional practices, notably cattle ranching, are increasingly challenged by urban groups who tend to value the forests narrowly in as recreational areas. Valdez discusses how *wilderness* is a cultural construct and observes that conflicts can arise when people's perceptions and experiences of wilderness do not match. He points out that because urban recreationists tend to "think that wilderness is supposed to be a

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[38] Designated by Congress in 2006, the Northern Rio Grande National Heritage Area stretches "from Albuquerque to the Colorado border" and "encompasses a mosaic of cultures, including the Jicarilla Apache, eight Pueblo tribes, and the descendants of Spanish colonists who settled in the area beginning in 1598" (http://www.nps.gov/norg/index.htm). The program coordinator, the Northern Rio Grande National Heritage Area, Inc., has authorization to use federal, state, local, and private funds to help local communities and residents conserve the unique cultural, historical and natural resources of the Heritage Area.

pristine, non-man involved area of land" (5612), they often fail to recognize that their so-called wilderness tracts were the homes of rural communities. Importantly, these landscapes are complete with houses, cemeteries, and traces of the people's activities to earn their livelihood. He also notes the irony that intensity of recreational activity actually increases in wilderness areas as they are designated for protective management through more highly regulated use.

Valdez calls for the need for local stakeholders, who possess important traditional knowledge of the land and its resources, to take a meaningful part in developing and implementing policies for the areas in which they live. Practicality informs his call for action: "Government policy and certain agencies should look at this as an opportunity because there's a whole lot of work to be done and they can't do it all" (5621). Valdez places emphasis on point that meaningful engagement of local community stakeholders and government agencies can only achieved through a dedicated process of social negotiation based on respect.

Valdez feels that local community members, through their traditional activities, can contribute to the management of the forest and contribute to its betterment. He cites a relaxation of woodcutting permits that encourage people to harvest dead and down wood as an example that would help reduce fire fuel loads in settings damaged by the recent bark beetle infestation. He views sustainable cattle ranching as being beneficial to the land because the livestock stomp down vegetation and open the understory of dead grass. To underscore his commentary, Valdez observes that up by the present-day settlement of Coyote, "the best and most well-managed pasture lands are with in the private tract homesteads" (5632). He adds, that whereas the recent Cerro Grande and Las Conchas fires occurred in areas that are highly regulated by government agencies, wildfires have been "significantly smaller" (5641) around Coyote where local community members practice their traditional ways.

Mr. Fred Vigil

Vigil, a member of a long-time ranching family, the former Rio Arriba County Clerk and the County's current Assessor, and an individual deeply concerned with community, history and tradition, is a life-long resident of the greater Espanola Valley. He holds a bachelor's degree in Liberal Arts and a Masters in Social Work. He worked at the New Mexico Museums of

Anthropology and International Folk Art. His experience in the Spanish Colonial Department at the latter institution fueled his interest in Hispanic weaving traditions.

Vigil, just as his brothers and sisters, is knowledgeable of his family's history: "It was drilled into us" (5651). Vigil traces his ancestry in the region back to 1600 and remarks that the Espanola Valley being formerly known as *La Vega de las Vigiles*. His parents, particularly his mother, were also storytellers; he and his siblings learned a great deal about their community's history in hearing these tales.

He helped his father with the family's livestock while he was growing up. His father and grandfather always had cattle, which they grazed on USFS permit lands in the Jemez Mountains, up to the edge of the Valles Caldera, all summer. He was still young—8 or 9 years of age—when he first accompanied his father into the mountains. The family over-wintered their livestock on their property in Espanola. They took the cattle out to the Bartolome Sanchez Land Grant each day to graze. Vigil, who was the youngest child, actually took over the day-to-day responsibility for the family's cattle operation when he was in high school. His father sold his USFS grazing permit in the late 1970s when the elder Vigil was approaching 80 years of age and the younger Vigil was out-of-state while completing his military service.

Vigil fondly recalls the cattle drives into the Jemez Mountains each spring up through Santa Clara Canyon. He and his brothers assisted their father with all that needed to be done, including branding, vaccinations and spraying, of the family's 35 cows with calves. Family members went into the mountains every other weekend to check the herd, regroup the animals if they had dispersed, inspect the fences, see if the cattle were need of salt, etc.

Vigil has ranching in his blood. His experiences helping run his family's cattle underlie his deeply held spiritual attachment—his *querencia*—with the Jemez Mountains landscape. He still would like to be a Jemez Mountains cattleman. He once tried to have livestock on his property in Medanales; however, because he did not have a USFS permit to run his herd, he had to rent summer pasturage near Tierra Amarilla. This economic arrangement proved not to be sustainable over the long term. Vigil laments that there is no way that he can enter into the USFS process to lease Jemez Mountains grazing rights other than to purchase a previously permitted herd, which represents, he says, prohibitively expensive, "value-added livestock"

(5746). He also is unhappy that the USFS does not have a system for evaluating the possibility of increasing the number of permits. Instead, he says, the agency only seems to reduce the number of cattle.

Vigil views his father as a mentor. His father taught him much about ranching, the forest and its wildlife, and his obligation to care for the land and to sustain it because "cattlemen really want to protect environments" (5709). Vigil tells that they would drive the cattle into the forests to feed on *patito del pais* (bush peavine [*Lathyrus decaphyllus eucosmus*])) for a week or two when it was ready for grazing. The cattle not only liked eating this plant, this practice allowed the meadows the opportunity to replenish their grasses. Along with the other permittees, the Vigil Family cattlemen maintained the trails upon they depended for access into their lease so they would not erode. Their duties included pruning trees along the sides of the pathways so the cattle—and the horsemen—would not be encumbered by forest growth. They also repaired fences, helped maintain the large corral that they shared with the other ranchers, made sure that streams were clean, and ensured that springs were protected and flowing properly. Vigil notes that he learned, both as an individual and a member of a community of ranchers, about what he needed to do to manage his family's cattle and the land without having to be supervised by the USFS or any other authority.

The Vigil Family cut fuel wood and gathered piñon in the mountains each fall. Both sides of his family had piñon gathering histories, but his mother's family members were particularly committed piñon collectors. When his mother was growing up, her family would go into the mountains for the month of February each year to harvest piñon, which they would trade at the Bond and Knowles' general store in Espanola.

Vigil's family members hunted within traditional guidelines that sustained the game populations. They also harvested a variety of native plants, including berries, *quelites* (lamb's quarters or pigweed [*Chenopodium album*]), and medicinal plants, in the mountains for use back home.

When asked about changes that he has witnessed over his lifetime, Vigil begins by expressing the belief that the forests were much healthier 50 years ago when he was still a boy. Local people were actively managing the forest more than the Forest Service was. People fixed

the roads, harvested excess fuel wood, and cut *vigas* and poles for corrals. He also talks about how cattle can help "clean up" (5717) the forests by preventing the buildup of dead grasses.

Vigil shares his memory of the permittees, "all working together" (5712) as a community in the forest at times of the spring and fall cattle drives, as well as work parties scheduled for range maintenance. Their work not only help sustained the forest habitat, their shared meals and gatherings around a fire in the evenings reinforced their sense of community and the spirituality through which the ranchers defined themselves and their interrelationships with the land.

Because the forest fire hazard is now so great, Vigil endorses the idea of large scale forest thinning projects models modeled after the CCC programs in which his father participated at the Bandelier National Monument and in the El Rito area during the Depression. Vigil believes that the revival of this kind of program would provide valuable employment and needed educational opportunities for young people, all the while benefiting the forest.

Vigil calls for federal agencies, including the USFS and the VCNP, to acknowledge that public land is the people's land. Policies that cut people off from the land do not foster respect for the agencies. "People become angry that their land is no longer accessible to them; sometimes you can punish the land more" (5727). He sees another tangible benefit of a CCC-type program along these lines: "If you get more of the younger people involved in fixing trails, doing things in the forest, they'll start taking more pride in it than abusing it" (5728).

Vigil feels that much of the poor relationship between area residents and land management agencies stems from the fact that higher-level decision makers are seldom members of the communities that they are supposed to be serving. Land managers and the different stakeholders do not really know one another. Additionally, local residents do not feel that they are a part of the management process.

Personally, Vigil feels that the USFS doesn't let the people be a part of the forest. He describes the situation as "a divorce" (5737). He believes that agencies need to engage local residents in meaningful and respectful dialogue, and he recommends the use of facilitators at public meetings to help stakeholders and managers to communicate with one another when strong differences of opinion arise.

Vigil has not had an active relationship with the Valles Caldera since his father sold the family's grazing permits on the Baca Location No. 1's east margin. He would like to go into the Valles Caldera, especially to see Sulfur Springs so he can have a fuller understanding of some of things that his uncles talked about while he was growing up.

In his opinion, the VCNP, just as the Bandelier National Monument, is perceived by area communities as inaccessible. Vigil feels that feelings of alienation are a product of policies of exclusion that have rendered places in the landscape, which were formerly important in the cultural traditions of local communities, "foreign" (5764). Vigil considers Bandelier, and by extension, the VCNP, as important educational centers that need "get more of the younger people involved" (5728).

Speaking specifically of the VCNP's livestock program, Vigil thinks that its priority should be to assist ranchers from local traditional and historic communities who don't have access to summer range through the current USFS permit process. "If I know that I could have at least five or six years of summer grazing for my 30 head of cattle" (5758), Vigil says that he would be very interested in purchasing cattle so he could again participate in a traditional lifeway that he values. He adds that he would be willing to pool his animals with other ranchers. More importantly, he would make the commitment to

> bring in that past knowledge to the present about working the land, working the land as a community, giving the government some ideas about how to best use that property. [5758]

Ms. Branden Willman-Kozimor

Willman-Kozimor, a relative newcomer to northern New Mexico (having moved to Jemez Springs in 2007), has a passion for the outdoors. With a background in nonprofit organizations and environmental education programs, she quickly became involved with the Environmental Education Center and the Pajarito Plateau Watershed Partnership Project.

A major portion of her interview focuses on her work teaching a fire ecology curriculum to middle school students (i.e., 6th and 8th grades). A goal of these programs is to help young people understand that wildfire is necessary to the maintenance of a healthy forest ecosystem and

to engage them in activities whereby they can benefit their community. Their studies characteristically include an on-site practicum involving the collection and evaluation of environmental data, which managers can then incorporate into their efforts to understand and mitigate the risk of catastrophic wildfire. Exercises in which the children weigh wood samples and then enter these data into spreadsheets to develop estimates of fire fuel loads simultaneously serve as applied applications of their usual classroom mathematics lessons. Such exercises also help the students better understand the enormity of the fire fuels management task itself and the urgency of the need for people to take responsibility and to act.

Willman-Kozimor reports further that some teaching techniques, such as the use of quotes by notable people and the students' own artwork, create an emotional link to the otherwise abstract topics that they discuss in the classroom. In other words, basic lessons of forest and fire ecology are most accessible and influential when they are personally engaging rather than exclusively on recitation.

Willman-Kozimor's formal introduction to the VCNP was through her work. She has since hiked and jogged its trails, fished its streams, and cross-country skied in its snow.

Although she considers neither the Jemez Mountains nor the VCNP to constitute wilderness areas, Willman-Kozimor discusses why this landscape is important to her and her family. The VCNP is special because of its beauty, serenity, and solitude. She feels that places with these qualities are relatively rare.

Willman-Kozimor understands the ranching history in the Valles and the legislative requirement for multiple use. In principal, she has no overwhelming objections to cattle ranching on the Preserve; however, she would like to see more attention be given to the separation of ranching and recreational activities, especially fishing. She expresses concern about the existing grazing management guidelines that tend to focus cattle in the riparian settings because of the heavy trampling of stream banks that she has observed while fly fishing.

While she would like to see greater recreational opportunities, Willman-Kozimor conveys the understanding that the granting of too much recreational access possesses the potential to degrade the very qualities that make the Valles' landscape so special. She recommends planning designs that offer the public different levels of experience, ranging from

RV camping to back country hiking and camping. A visitor's center is much needed. Willman-Kozimor believes that the Preserve's access management plan should more closely follow the NPS model than the USFS approach.

Willman-Kozimor would like to see the Preserve expand its role as an education center. The VCNP's importance for education should not be limited to area school children; she talks about the value of an idea of developing a trail through a number of different fire fuels reduction treatment blocks to help the public better understand the beneficial role of fire in pine forest ecology and the results of varying fire management treatments over time. She is an advocate of planning prescribed burns to include a direct educational component, whereby members of the public can view ongoing treatments from a safe location. Willman-Kozimor calls for the addition of a full time Educational Coordinator to the VCNP staff.

CHAPTER 5
PUBLIC PERCEPTIONS OF WILDFIRE

Wildfire as a Bad Thing Versus Wildfire as Beneficial Part of a Natural System

> *Growing up, [wildfire] was so much the enemy. It was so unquestionably feared and suppressed.* Don Usner (3446)

Dorothy Hoard keenly observes that wildfire and its consequences are very much in "the eye of the beholder" (1252). Depending on a person's training and experience, including the cultural norms with which they were raised, wildfires may be reasonable viewed as either a bad thing or a beneficial part of a natural system.

Long-time residents of Los Alamos have been keenly aware of the risk that wildfire has posed to their community for decades. The succession of large wildfires since 1977's La Mesa Fire have helped make people aware, even if only implicitly, that there has been the buildup of sufficient deadfall in the forests surrounding the town to sustain a major burn (Hoard 1248).

Don Usner, who grew up in Los Alamos, notes that Los Alamos has been a nervous community since his childhood because of the near-constant seasonal threat of wildfire. This nervousness persisted even though natives of Los Alamos had long accepted that fire existed in their backyard (Strickfaden 3286). Usner recalls this pervasive fear of wildfire led to a high-level of reactivity toward the suppression of all burns: "The slightest indication of smoke...had to be snuffed out entirely" (Usner 3451).

Further reflecting upon his experience of growing up in a community where wildfire was an ever-present concern—even if its residents simultaneously shared in a denial that a wildfire would actually ever burn into Los Alamos itself and devastate its neighborhoods (see below)—Usner concludes that it is human nature to fear fire (3601). He explains that when a person sees

a catastrophic fire, they are devastated by the destruction it causes (3516) and alarmed by its lack of predictability (3524). People characterize wildfire "wild and untamable and fearful, frightening" (3579). Consequently, through their choice of terms through which they perceive wildfire, people reinforce these perceptions in their minds, thereby teaching themselves and future generations to learn to fear fire (after Usner 3516).

Dorothy Hoard, another of Los Alamos's long-time residents, echoes Usner's remarks. She states that most people don't have a perception of wildfire as anything other than destroying things. Therefore, many people view wildfire as an evil (Hoard 1296).

With but a single exception (Greg Kendall 2435), study participants, including individuals whose families lost homes during the 2000 Cerro Grande Fire (Charles Keller and Don Usner), declined to characterize wildfire in broad terms as necessarily "a bad thing." Teralene Foxx and Craig Martin exemplified the majority's practice of providing specific context when they offered opinions about circumstance in which wildfire in the Jemez Mountains may reasonably be viewed as "a bad thing." For example, Foxx described wildfire near homes as "a bad thing," while carefully explaining that a "bad" wildfire is one that burns uncontrolled and threatens society (1011). In response to the question, "Is wildfire a bad thing?," Martin answered,

> Well, it depends on what it is? If it's in town, it's a bad thing. If it's on the [Wildland-Urban] interface, it's a bad thing. But, in general, 'Wildfire is bad?,' I strongly disagree. [2547]

All participants, including the respondent who previously viewed wildfire broadly as "a bad thing," conveyed their understanding that fire is a natural part of forest ecology. In this capacity, the majority of individuals saw wildfire as frequently possessing benefits for forests. For example, Art Morrison, who has visited localities burned by wildfire, describes the recovery process: "You see a little black, and all of a sudden you see green... It just revives. It revitalizes" (2754). Louie Hena similarly observes,

> Fire..., it's good, because it's cleansing. As soon as the fire is gone, what do we have? We have brand-new grass, we have new shrubs. All the pioneers coming around, and all the wildlife coming in. [4086]

Craig Allen, Robert Dryja, Dorothy Hoard, Richard Ford, Teralene Foxx,[39] John Hogan, Charles Keller, Craig Martin, Art Morrison, Tom Ribe, Gilbert Sandoval, and Don Usner, among others, note that forest habitats can be much improved after wildfires throughout their remarks. John Hogan observes, "There's actually more food out there now for a greater variety of animals than there was prior to the Cerro Grande Fire" (1491). Richard Ford explains, "Fire has been a natural generator of the forest ecosystem" (875) because it helps replenish forest soils by releasing nutrients locked in tree biomass (876), thereby stimulating the "growth of herbaceous vegetation" (774). He adds, when wildfires are allowed to burn, they reduce forest fuel loads, thereby making subsequent fires less hazardous (Ford 876). Charles Keller remarks that the heat from ground fire bakes the ground creating ideal conditions for seedlings of specific species of trees like oaks and mountain mahogany to grow (2157). Teralene Foxx reports that wildfire opens the environment to native species and dormant seeds that have lain for years in soil seed "reserves" (943).

Several respondents went on to discuss wildfires' benefits in broad terms as a natural corrective mechanism. Dorothy Hoard identifies wildfire as one of the methods, which Nature uses "to clean house" (1236). Other respondents express comparable sentiments:

- Teralene Foxx—"What we forget is that nature heals itself" (980), and "It's my basic opinion that if you don't do something, it's going to take care of itself anyway" (954).

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[39] In addition to her interview comments, Foxx has either written or contributed to publications and books that promote understandings of wildfire ecology in the Jemez Mountains and fire's beneficial aspects. Some of these volumes are technical documents, such *Fire Ecology at Bandelier National Monument* by Teralene Foxx and Loren D. Potter (1978) and *Los Alamos Fire Symposium, Los Alamos, New Mexico, October 6-7, 1981* (1984). She participated in other writing projects, including *Out of the Ashes: A Story of Natural Recovery* (2000), *The Forest and the Fire*, by Alison Carlisi and Teralene Foxx (2005), and *Lest We Forget: Stories of the White Rock United Methodist Church and the Cerro Grande Fire, May 2000* (2001), in the effort to help Los Alamos residents, who experienced the devastation that the Cerro Grande Fire wrought upon their community in 2000, to cope with their often overwhelming senses of loss and grief.

- Art Morrison—Crown fires give forests of either mixed conifers or pure spruce stands a "clean slate" to start anew" (2807) and "As a practical matter, fire's going to clean up this mess" (2802).
- Tom Ribe—Wildfire is now "a force of correction" for past abuses and sets the stage for the landscape to rebuild [3066], and wildfire does not destroy a forest, "it resets a forest" (3075).
- Porter Swentzell—"The [Cerro Grande] Fire cleaned the forests in a sense" (4628).

Gilbert Sandoval shares his poignant, deeply spiritual thoughts on this same theme:

> God has His own ways of cleansing [the forest] ...He offered us those resources to use for our sustenance, but we've refused them for our own detriment. But I think that God loves the world enough that he's going to do His own cleaning, and fire is His tool. [5469]

Participants overwhelmingly called for land managers to acknowledge the importance of fire in forest ecology. Tom Jervis, for example, neatly states the opinion shared widely among participants: "I would like to see fire have its natural role" (3068). Chris Judson notes that if wildfire is largely suppressed, the affected forest is "absolutely" not a natural system (1926). Tom Ribe observes that wildfire is a "natural element," but it is "exacerbated by management. Fire is a reflection of reality" (3068). When asked if he is saying that fire is a way of sustaining a forest and wildlife, Craig Martin agrees and adds, "I'm also saying that [wildfire] might be the only way that we have in the Southwest to dial the system back to where it should be" (2554).

Despite his academic training in forest ecology and his understanding of the importance of wildfire, Don Usner refers back to his acutely personal experiences of loss during devastating wildfires at Big Sur in California and Los Alamos in 2000 to offer a sobering conclusion:

> Even though you know intellectually, on some level, in many ways, [wildfire's] a good thing. It has done what it's supposed to do. Things are going to come back. They will be healthier and more diverse. There's still a sense of emptiness [3513] ...All of this almost glib belief that fires are going

to be good is out the window... It's not the kind of thing you sit back and muse about how good it was. [3516]

Loving Our Forests to Death through Aggressive Wildfire Suppression

Nobody wants to go in where it's all—in Spanish, it's turpido—*congested.* Fred Vigil (5779)

Participants generally view the historical policy of aggressive wildfire suppression in the Jemez Mountains as a mistake; only one individual voiced the opinion that this course of action is a good thing (Greg Kendall 2438). Those critical of aggressive wildfire suppression readily admit that they base their conclusions on the benefit of hindsight, and they acknowledge that these forest wildfire management policies were framed and implemented with good intentions, such as protecting big trees for timber (after Tom Ribe 3081).[40] The end result, respondents point out, is that the forests are now so overgrown that they are unwelcoming to people, unhealthy as a habitat, and susceptible to catastrophic wildfire.

Bill Armstrong (431) and Anthony Armijo (354) specifically identify the role that aggressive fire suppression has played in the overgrown forests now seen throughout the Jemez Mountains. Armstrong maintains further that if there was recurring fire in the ecosystem, the forests wouldn't be like this today. Tom Jervis adds, "We're dealing with a backlog" of neglected, or "fire excluded," ecosystems (1717). Ideally, there should be between 50 and 100 trees per acre, but in these overgrown forests, there are 2,000 or so trees per acre (Jervis 1746). Given his training in conducting forest surveys, Gilbert Sandoval estimates that 120 tons per acre fuel loads are probably now common in the Jemez Valley where he has lived his entire life because of the large quantity of brush that has accumulated under the ongoing regime of fire suppression and the shutdown of the logging industry (5388). In comparison, Sandoval grew up

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[40] Porter Swentzell is but one of the participants who viewed the history of fire suppression as an example of the failure of good intentions. He adds that in addition to being a failure of good intentions, he characterizes prevailing fire suppression policies as also "not understanding the natural patterns, not having been observant enough to see what happens if you stamp out every little spark" (Swentzell 4624).

with fuel loads of only 20 tons per acre (5389). This is why he is today an active proponent of prescribed burning.[41]

Long-time residents remark on their experiences. Don Usner observes, "...the vegetation has changed. I've noticed it in my lifetime. It's become much more overgrown" (3431). Dorothy Hoard continues, "You have to blunder through a lot of stuff to get to go where you want to go. I've seen deadfall timber taller than me." Georgia Strickfaden, who was among the first generation of children born in Los Alamos following World War II, notes, "In all [my] adventuring around, whether on horseback or on foot, I found the forest to be too thick and rather oppressive" (3201).

Bill Armstrong has taken members of the general public and high-level politicians and into long-unburned forest tracts many times over the past several decades. He reports, "Everybody stays on the trails. But when you take people off of the trails, that's when they suddenly realize, 'This [overgrowth] is terrible'" (429).

Besides observing, "the forests are way too thick," Dorothy Hoard adds, "the trees are sickly" (1152). She goes on to describe other ecological consequences of overcrowding on forest health: "No birds, no butterflies. No lower story plants, just duff. Pine needles only grew at the very tops of trees because of shading" (Hoard 1156).

Art Morrison raises the issue that more than a century of aggressive fire suppression is affecting the Southwest's mountain forests in another profound way when he notes that the amount of aspen grove acreage that this region has lost is phenomenal (2758). Don Usner

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[41] Art Morrison (2729) reports that Forest Service has abandoned the term "prescribed fire" as part of its official idiom (see *Mass Media and the Conditioning Role of Language and Images of Fire* below). Morrison, however, states, "I still use 'prescribed fire' when I'm talking to the media because that's what people know" (2730). Additionally, several other participants strongly object to the term *\prescribed burn*. For example, Charles Keller who maintains that there is no such thing as a controlled burn; they need to be called prescribed burns (2252). Hilario Romero, who learned a good deal of about fire ecology from Fred Swetnam, a former Jemez District Ranger, asserts flatly, "There is no such thing as a controlled burn" (5292). With respect to these respondents' views, in combination with the common use of *prescribed fire* among the other participants, I adopt the vernacular term *prescribed fire* in this report.

notices that there have been" huge structural changes happening" in the forest environment that are probably irreversible due to the fire suppression.

Just as most of the other participants, Robert Dryja (620) believes that the building overgrowth is a wildfire disaster in the making. The only question in his mind is when the Jemez Mountain's forests will burn, but he expects that there will not be "significantly noticeable" wildfires every 5, 10, and 15 years (671), they will be larger and more catastrophic (623). As I examine further below, other participants share Dryja's concerns.

Teralene Foxx explains why subsequent wildfires will be more damaging: "They are going to be hot fires because of the fuel" (1032). Art Morrison expresses his fear: "When it wipes out, it's going to be a lot bigger wipeout than it would have been under a more natural condition" (2759). As already noted, Gilbert Sandoval estimates that forest fuel loads near Jemez Springs likely approach 120 tons per acre. He reports that wildfires can sterilize forest soils "if fuels are heavy enough," such as 60 tons per acre (5388; see also Sandoval 5407). Don Usner (3526) concludes that after 120 years of fire suppression, wildfire fire managers have gotten themselves into a situation where they can't count on small fires staying small, or their ability to control them and keep them small.

Chris Judson, too, worries about the intensity and size of future wildfires because of forest overcrowding and the buildup of fire fuel loads. Having experienced the trauma of seeing major parts of Los Alamos (where she resides) and Bandelier National Monument (Bandelier) (where she works) burning, she holds onto the dream of seeing the public's collective love for the forests resulting in the adoption of fire management policies that allow for the reintroduction of wildfire in the Jemez region's forests:

> Of course, being so far out of whack from all the years of fire suppression, that's a really high aspiration. But it's a very interesting thing to have as your aspiration...I think at the back of everybody's mind, that is, the highest ideal of how the ecology here should run, is by fire. [1925]

A Constant in the Jemez Mountains' Natural History

> *We should have a fire every 5 to 10 years, but I don't think we will.* Teralene Foxx (1031)

Craig Martin (2553) states that the Jemez Mountains forests are meant to burn. Art Morrison offers a bit of historical context in his agreement with Martin's assertions:

> If the ponderosa pine [*Pinus ponderosa*] ecotype burned every two to seven years before European settlement—or before aboriginal settlement for that matter—it's just a part of the natural function. It has to burn. [2757].
>
> What makes the Southwest unique, at least in the ponderosa pine, is the frequency at which things burned. [2764]

Morrison contends further that during aboriginal times, there would have "always" been smoke in the air due to the frequency of fires in the Southwest (2765).

Teralene Foxx explains, "We know from our studies that the fire frequency was every 5 to 20 years..." (1030). She adds that there are a lot of factors to consider in the area, such as lightning and the number of people, to predict how soon a fire will burn given area. She expresses doubt that wildfires will ever again occur at this historical high interval because of reigning aggressive fire suppression policies, however.

Don Usner recognizes how people's prevailing perceptions of forest fires 'as a bad thing'" have obscured the public's understanding of wildfire's frequency and importance in the mountainous forests' natural histories. "Even back then, fire's always been part of the world out here in the West, or it was back then. I think about how perceptions of it have changed since then. It is pretty dramatic" (3411). John Hogan concludes that people don't have a sense of how frequent and how pervasive fire really is in nature. (1487).

The Inevitability of Wildfire in Today's Pine Forests

> *I've seen it happen again and again, and it's going to happen again.* Don Usner (3608)

Regardless of how they view wildfire as either a "good" or "bad" thing, all participants share the conclusion that devastating wildfires in the Jemez Mountain's forests are inevitable given the woodlands' current condition, and prevailing fire and fire fuels management policies. Many respondents also identified the factor of climatic change—specifically drier and warmer climatic conditions (see below)—as a powerful contributing factor that is now heightening the risk of catastrophic wildfires through the region.

"The forests look like they are due to have a fire... They all look like they have a lot of timber that has accumulated under the trees that have not been removed..." (Richard Ford 897). The forests were just waiting to burn (Dorothy Hoard 1157). "Wildfire's potential is always there; the probability is always there. But it depends on water... falling from the sky" (Craig Martin 2565). The potential for large, catastrophic fire is high in most of the Jemez, except for its highest and wettest settings (Tom Ribe 3087).

Certain tree and shrub species, such as oak and mountain mahogany, "expect to get burned. 'Go ahead, burn me. I'll be back even better next year!'" (Charles Keller 2158). There *definitely* will be fires because there will always be lightning (Robert Dryja 669; Branden Willman-Kozimor 3739). Crown fires are inevitable; "It's not if, it's when" (Art Morrison 2746, 2806). Gregory Cajete observes,

> I think that the [Las Conchas] fire was 'bound' to happen eventually... Given the fuels and the many possible ignition sources, one will even say that it is probably lucky that it happened so late, but very unlucky in the sense that it happened during this time, which is a time of global climate change. [3958]
>
> We can expect mega fires to be part of all our life experience from here on out... We could lose as much as 75% of our forested lands. This mega fire [the 2011 Las Conchas Fire] might be just the beginning of fires that are even larger. [4002]

In the experience of some participants, the capacity for many members of the general public to deny the inevitability of wildfire seems as strong as the probability that catastrophic wildfires will persist even within areas recently devastated by large-scale, canopy burns, such as the Cerro Grande and Las Conchas conflagrations. Don Usner, for example, feels that people in general are in denial about the overgrowth and potential for a large fire (3485). He adds that once a big fire has occurred, people tend to believe that there can't be another big fire, although history has shown that there will be other large conflagrations in just a matter of time. "It's almost like your denial gets reset" (3518).

Usner emphasizes that people need to learn to anticipate that catastrophic wildfire is (1) inevitable and (2) reoccur throughout our lifetimes (3607). Georgia Strickfaden adds, "All the forests in the West are in this [fire-prone] condition and fire will happen. It's a matter of controlling that and maybe making it happen in places as prescribed burns so that you can keep it manageable..." (3272). Bill Armstrong expands upon these lines of thinking:

> In the West... if the American public wants to have large blocks of contiguous forest, on public lands, otherwise national forest... Then the public needs to understand that it's not a question of whether or not they will burn. That's not the choice. It's how you see the burn. What intensities? What severities? How do you see fire on those landscapes? We can either continue this futile effort that we have of putting these things out, in which case we are just compounding the problem and waiting for the eventual fire that's going to burn that much hotter and that much more severe, or we can be out there lighting them, which is really the only tool we have remaining...Or we can do the far more riskier strategy of trying to manage wildfire...The choice is...how do you want to see it burn? What kind of fire do you want? That's the choice, and that's the message that we should be getting out there. [496]

Climate Change and Wildfire

> *If we're looking at a period of drying with more frequent severe droughts... then, yeah, we are going to see some really big fires...that are going to change the landscapes.* Bill Armstrong (502)

Armstrong adds that the future of big fires in the Southwest is going to change the forests. They will burn hot and dramatically recast forest ecosystems (501). To a large extent, the future of the southwestern forests is tied to climate change characterized by higher temperatures and more frequent droughts.

Of all of the participants, Craig Allen, who has published extensively on the subject,[42] spoke most eloquently and forcefully about the role of climate change in shaping the future of forests in the Jemez Mountains, elsewhere in the Southwest, and throughout the world. According to Allen, The world is getting warmer thereby causing the forests to die at an accelerated rate (146). Forest mortality rate has doubled in the last 25 years in the Southwest, just as elsewhere in other parts of the world (147). Forests in the Southwest are going to die over the course of the next century based on the climate change projections and models (145).

Allen continues:

> In the Southwest... it's a warm drought... that's what they're going to be in the future because the planet is getting warmer. Even if you presume that nothing is going to change in terms of the [precipitation] ... put warmer temperatures on top of it and you're going to change the stress levels on these things. You change the physiological functioning. So, here in our little landscape...whether it's juniper [*Juniperus* spp.], or it's Douglas fir [*Pseudotsuga menziesii*], or ponderosa pine, or piñon, it's dying. [148]

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[42] See Allen (1989, 2002, 2004, 2007; Allen et al. 2002, 2008) for a small sample of his publications.

> If the climate changes abruptly... then maybe the vegetation or the ecosystem changes dramatically. What worries some of us is that the climate can change gradually, but you hit these thresholds and then the system still responds non-linearly in some significant way, and this is the sort of forest die back that I'm talking about. [151]

> The fire season is getting longer. The growing season is getting longer, and the period, where snow is on the ground and it's moist, is moving back, so it's a probabilistic thing. [158]

> We're also seeing the [wildfire] intensity going up... Part of it is that under warmer temperatures the turpine complex are more volatile in the high elevation forest, which is what are really burning hottest,... more frequently and more often than people are used to seeing. [159]

Gregory Cajete (4020) adds that climate change is equally a matter of perception. For many who accept that climate change is real, there is a belief that it is not happening to them. Instead, there is a view that climate change is something that happening over there.

Speaking of the forests of the Southwest's forests generally, Allen explains how human experience fuels this faulty perception:

> People have a strong sense of trees and forests being something relatively permanent, even though we know in long-term scales they have changed a lot... but on the time scale in which we live... trees live longer than we do, so to us they look like permanent kind of features, but the point is that one of the first manifestations ecologically of climate change is that this stuff is going to die wholesale. [50]

"Smokey Bear" and "Bambi" Syndromes

> *I think that it's very necessary in order to change that 'Smokey the Bear' mentality, to have an education program.* Branden Willman-Kozimor (3776)

With entrenchment of powerful cultural icons, such as Smokey Bear and Bambi, coming to occupy a prominent place in the public's conscious during the 1950s and 1960s, people's perspectives about wildfire underwent a transformation (Richard Ford 877). Ford states that before Smokey Bear,[43] fires were allowed to burn. "As the population got larger and there was more investment in cultural property rather than forest property... we then really [began to] suppress fire" (Richard Ford 875).

Through then-common—and still-memorable—commercials and public service announcements (Debbie Carrillo 4799; Fred Lucero 5012), participants bought into the fire prevention message. Teralene Foxx recalls, "In the 50s, Smokey the Bear pointed the finger at you and said, 'No Way!' My perception was that all fire was bad" (919). Charles Keller remembers that the movie "Bambi" changed peoples' perceptions of wildfire (2171). Wildfire was depicted as something horrible and fearful, that leaves total devastation behind it. The movie sent the messages that hunting and fire were bad, with wildfire bringing total devastation (Keller 2171).

Through education and experience, participants learned to question the common sense wisdom proffered by Smokey Bear and Bambi. Dorothy Hoard (1152) got to know a retired USFS employee who strongly disagreed with the Forest's ongoing "Smokey Bear" policy in the 1960s. Consequently, she has since been "anti-Smokey Bear" (Hoard 1153). Braden Willman-Kozimor (3777) similarly admits that she grew up with the "Smokey Bear" mentality and had to be converted.

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[43] Note: Federal fire suppression policies were adopted on a wide scale during the 1910 fire year.

For Teralene Foxx, her personal revelation occurred in the aftermath of 1977's La Mesa Fire, which burned parts of Bandelier in which she had been conducting botanical study and threatened the greater Los Alamos community of which she was—and still is—a resident. Initially devastated by the La Mesa Fire's disruption of her work, she soon realized wildfire's ecological benefits:

> About three or four days after the fire went through, I was allowed to go out to one of my plots and I was standing there... with Smokey Bear in my mind... As the sun came up... what I saw was just so amazing to me and it was a life changing moment. For out of the blackened soil were these sprigs of grass, and they were the greenest green I'd ever seen. [Foxx 926]

Foxx next mentioned seeing aspen trees sprouting rapidly because their immense root systems do not burn in a ground fire (934). She suggests further that aspens can grow much faster because of all the fresh nutrients in the soil and the cleared canopy. She uses the term "gigantism" to describe the great growth possible after a fire because there is no longer so much competition for the light and there is a nutrient flush (929). Foxx also found that an area that had burned just 17 years before the La Mesa Fire was recovering much faster than the adjacent area that hadn't burned in over 100 years (931).

Hilario Romero characterizes the USFS's use of Smokey Bear as selling people "a bill of goods" (5291) to justify the agency's aggressive fire suppression program. Additionally, Tom Jervis thinks that the Walt Disney Company's portrayal of Bambi has contributed to people's perceptions in this country that wilderness is a "Bambi-type World" (1929). Jervis now considers this image as "bologna" (1629).

During extended discussion with Debbie and Charlie Carrillo, it became clear that these individuals perceived the existence of irony in Smokey Bear's often recited call for action (namely, "Only you can prevent forest fires") from their childhood. As adults, they sense that the USFS long ago adopted policy that now almost guarantees the occurrence of more large and catastrophic forest fires in the years to come (Carrillo and Carrillo 4799).

Just as Branden Willman-Kozimor, other participants (e.g., Richard Ford 877) recognize the need for public education to help people understand what healthy forest ecosystems entail

and the benefits of fire in this process. John Hogan expresses the hope that educational programs can be devised and conducted such that people understand New Mexico's mountainous forests are fire-dependent ecosystem and they are comfortable, even hopeful, when they see "little puffs of smoke" (1482). Art Morrison (2820), however, urges caution in scheduling the dissemination of this message: when people are being tragically affected by a fire, it is not a good time to start talking about the ecological benefits of wildfire.

Mass Media and the Conditioning Role of Language and Images of Fire

> *Here on Cerro Grande Fire, they [the media] showed the same house burning... over and over and over. I wanted to throw a brick at the television because there was no news. It was just one sensationalistic or a couple sensationalistic loops played endlessly.* John Hogan (1421)

Art Morrison's appeal for caution when timing discussions about wildfire's ecological benefits underscores a formidable issue acknowledged by many participants. How can members of the general public broadly receive desirable wildfire education when common media outlets (1) generally ignore the topic unless a devastating wildfire threatens infrastructure and personal property, and (2) use language and imagery of destruction to convey a "news" story?

John Hogan explains news media portray fire as a fearful, destructive and catastrophic force (1483). In his opinion, this depiction rests on "major" misconceptions of wildfire resulting from the media's dependence on value-laden language regarding fires, including the terms "catastrophe" and the like (1484). Dorothy Hoard states that the media hypes messages that fire "is out of control," has "destroyed" the forest and threatened lives, all the while using the language of disaster and casting people as innocent victims (3582).

Don Usner speaks of the mass media's use of language about wildfire as one of war, replete with aerial bombers (3581). He feels that the media perpetuates the idea that wildfire is "a huge force to be fought" that does a disservice to the role of fire in nature. Usner also observes that the backcountry firefighter is idolized as a hero figure in the media who cheats

death to protect civilians. The general public is fed these images of firefighters through the media. "The firefighter has replaced the cowboy" (3580).

Charles Keller finds that the mass media's selection of video and still is designed to convey the message that firefighters are doing everything they can to extinguish large, catastrophic wildfires (2044). Keller (2040) points out what he views to be a fundamental reality that the media does not convey to the public: backcountry firefighters exert relatively little effective influence on wildfires once burns surpass a threshold of about 1,000 acres or if there are frequent wind events during a blaze (see below). Keller suggests that under the conditions of large size and/or common blustery wind events, firefighters cannot be successful because their firefighting techniques are ineffective under these conditions. He adds that wildfires are capable of generating the wind around them. "The statement '[wildfires] make their own weather' is designed to make the public very forgiving" (Keller 2045) of the inherent and practical limitations of the backcountry firefighters' efforts under difficult conditions.

John Hogan concludes that the public is fed by the media, so they are not exposed to information that will help them comprehend how wildfires can be beneficial ecologically (1485). Hogan adds that the public doesn't see the percentage of how much of a big fire is actually catastrophic. Only about one-third of the burned area is a high severity burn. "For at least half of those acres burned in those fires, it was ecologically beneficial" (1486). He concludes,

> People who live in the mountains ought to understand that...every time they see a puff of smoke that it's not death and destruction. Maybe the word that should come to mind is 'rejuvenation' or something a little more positive. It doesn't take long after those beneficial fires to go and see something better coming back. [Hogan 1489]

An educator, Richard Ford feels that reporters need to be educated to cover the stories about fires besides only the destruction (883). He cannot imagine hearing a reporter covering a fire saying that wildfire rejuvenated 88,000 acres (884), nor does he recall hearing much of substance about successful prescribed burns (885). Another educator, Branden Willman-Kozimor feels the media goes "for the most sensational aspects" (3779) of a wildfire. She believes the fires warrant media coverage, but she feels that the media should conduct its

business without sensationalism, stating that the media should use its power to educate rather than scare (3780).

With backgrounds in dealing with media in different capacities, Craig Martin and Art Morrison acknowledge the challenge that lies ahead. Martin states,

> Fire's a gut wrenching thing, you know. That's why you're going to see it. The day-to-day stuff that could make a difference in peoples' lives before it's too late is not flashy... And the political winds follow the news. [Martin 2626]

Martin understands why there has been no interest in his work for Los Alamos County to reduce fire fuel loads nearby sensitive infrastructure and homes of his community.

> It's not news to report on how you're going to prevent the next one, or how you involve kids in learning how to live with fire. That's not... [news]. That's been a mystery to us..., but it is kind of cool what we've done here. Nobody notices. [2627]

For his part, Morrison has found it challenging to get the media to take an interest unless there is something catastrophic happening (2823). "Unfortunately, it's like any other thing in our society. It takes disaster and catastrophe to get someone's attention" (Morrison 2749).

The media shows the fire crews working hard in harsh conditions, showing a dramatic story to the public (Morrison 2744). He realizes the emotional impact people experience when losing their home or their pets and knows that media likes to capitalize on the emotional stories (2747).[44]

Don Usner expresses skepticism. In his opinion, the media isn't able to distinguish between a good fire and a bad fire (3585). He (3583, 3586) knows that there are people who are

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[44] Don Usner experienced the media's insensitivity toward persons dealing with loss in the days immediately following the Cerro Grande Fire, which burned his parent's home. A news team followed Usner around the gutted remnants of his family's house with camera and microphone, all the while asking him how he felt seeing the ruins of the home and the surrounding forest where he had grown up (Usner 3543).

connected to the land and understand that some fires are beneficial to the land and ecosystem, but that never makes its way into the media because the hype gets more attention. "[D]ramatization and fear fuels the whole machine that's in place to fight the fire" (3587). Also, he feels that the systems that fuel the spending on firefighting are self-perpetuating, being encouraged by the media and the funding that becomes available to suppress large backcountry wildfires aggressively (Usner 3600).

Art Morrison feels that catastrophic fires represent an educational moment because there is a lot of media attention and the public starts paying attention during times of touted disaster (2821). Mindful of the need for sensitivity when dealing with a person's loss and grief, however, he advocates small steps: "If all the multiple [fire management] entities could ever figure out some sensible, commonly understandable terms and stick to them for more than a year or two, I think it would improve our ability to communicate a lot better" (2736). He offers the USFS's abandonment of the term "prescribed fire" and its instructions to employees to not use the phrase "let burn" as examples. "Now they're calling fires 'natural' or 'unnatural ignition'" (Morrison 2729). He asks cynically, "Now that's really going to play well with the media?" (2729).

Picking One's Fights: The Value of Aggressively Suppressing Wildfires

> *Having been trained as a wild land firefighter, there is no way that I could ever stand in the way of one of these things. I think resources should be allocated to protect the [Wildland-Urban] interface areas... Do what you can to protect the watershed, but for the most part let them go. It's not politically acceptable right now, I know.* Craig Martin (2550)

Bill Armstrong (438) recalls a consultant, who was working for the Los Alamos National Laboratory (LANL), told him once during the years leading up to 2000's Cerro Grande Fire, that backcountry wildfire is "not that big of a deal" because LANL, Los Alamos County, and the USFS have fire suppression capabilities. Gilbert Sandoval, a now-retired career USFS employee with considerable wildfire experience in the Jemez Mountains, has a different view. He has found that wildfire has to stop itself, such as when the fire burns into the piñon-juniper woodland

or the weather changes. "Man does not have the resources to stop it with normal practices of fire suppression" (Sandoval 5463).

While stressing the important caveats that (1) infrastructure, homes, and public safety must be protected, and (2) decisions to allow relatively cool, mosaic wildfires to burn in remote backcountry setting are becoming more common, most participants feel that forest fire managers need to give greater thought to policies governing aggressive wildfire suppression. They question whether big fires are controllable given existing wildfire suppression strategies and technologies. Participants acknowledge formidable challenges posed by weather events, changing climatic patterns, and the past fire suppression policies, which underlie the dramatic increase in fire fuel loads in the Jemez Mountains' forests since the late nineteenth century. Contemplating the implications of their questions whether large backcountry wildfires are truly manageable, contributors also considered the value of spending public funds on such burns in their responses.

In framing his remarks, Craig Martin offers the observation that wildfire managers need to base their decisions on how to engage a backcountry wildfire on a host of factors that include past and present moisture conditions, as well as an accounting of infrastructure and other societal values. Based on what he has seen, Martin feels that under relatively moist conditions, many wildfires are manageable and even provide fire managers valuable opportunities to fulfill the goal of reducing fire fuel loads: "We should actually sit back and let them do a little bit of work for us because they're not going to crown as long as we have reasonably wet conditions. I'm not saying we don't need to have people up there watching things, but let them watch" (2571). Under sustained drought conditions, however:

> We're back to crown fire. What we do is dependent on our values at risk. If it's... We know how wildfire moves in the Jemez Mountains. It moves from southwest to northeast. You look at a 30-mile swath. If there's any problems, go ahead and suppress it... If it's dry, it's a different story. You got to have people pay attention to it. [Martin 2573]

Tom Ribe maintains aggressive wildfire suppression in backcountry settings should be the "least common response" (3070). When active intervention by firefighters is required and

existing environmental conditions are favorable to the implementation of control efforts, Ribe calls for more effort to herd and steer fires. He refers to this strategy as one that manages fires on their margins (3070). He acknowledges that "least common response" that he favors is dependent on prevailing weather conditions.

"The enthusiasm that fuels burn with is dictated by the condition of the atmosphere" (Ribe 3039). Relative humidity is almost always the most important factor. Flash fuels, such as pine needles and dry grass, absorb humidity quickly. When there is high humidity, fires tend to burn slowly. Ribe (3040) adds that wind physically pushes fire and increases the rate of preheating in advance of the flame front. Cold fronts are the most difficult for firefighters, even if conditions are moist. They often pass quickly and bring rapid wind shifts. He concludes that wildfires "really are particular to the places where they are happening... They reflect that place, and they reflect the weather" (3037).

Charles Keller remarks that firefighters seem to be able to put small wildfires (i.e., those burning 100 acres or less) out successfully (2039), provided that the wind stays down (2036). As noted earlier, however, he questions whether backcountry firefighters can effect much influence on a burn that surpasses 1,000 acres or more in size or and if there are wind events once or twice a week (2040). He notes that the La Mesa Fire, which he characterizes as the product of an extreme wind event (also Tom Ribe 3069), put itself out after the firefighters had already decided to just stay out of its way (2035).

Teralene Foxx echoes Tom Ribe's and Charles Keller's observations when she states, "I don't think wildfires are controllable" (1034). "It is not the firefighters that stop a fire. It is the weather changes that stop a fire. It's the wind that goes down that stops a fire" (1035).

Relatively cool mosaic burns, which either do not require or are responsive to minimal, strategic human intervention, require particularly favorable moisture, wind, and fuel conditions. Hot crown fires are more likely when conditions are dry, windy, and fuel rich. Craig Martin remarks, "The hard issue here is that crown fire is... bad no matter where it is" (2549). Robert Dryja believes that people cannot control crown fires; the only thing they can do when a wildfire crowns is to "stay out of its way" (677), although he understands that contemporary social and

political considerations dictate why wildfire managers are compelled to some symbolic gestures (681).

Other participants share Dryja's belief about the futility of investing great effort and capital in attempting to suppress crown fires in backcountry areas. Art Morrison states, "[T]he truth about the matter is, when you're on a big bad fire like that, there's portions you can't do anything about anyhow" (2733). Craig Martin fatalistically considers crown fires as a kind of corrective mechanism (see also above):

> We are not going to prevent crown fires because we have had some management issues in the past. We're going to have to toast all of that area to get the system back to normal. I don't see any other way around it. [2549]

Don Usner (3588) feels that in a hot, crowning wildfire, all that firefighting crews can really do is get out of the way. He adds that they are wasting money because it is futile to be there (also Art Morrison 2734), but the crown fire devastation

> hype is so strong that there is sort of a blank check; it's unlimited. Just keep throwing stuff at it; throwing people out there... It's out of proportion to what is effective. [3588]

He believes that prevention policies and practices would be more effective, as well as a better use of available funds and resources (Usner 3590).

Louie Hena (4087) similarly views government fire suppression as being all about money, not effective forestry management. Teralene Foxx (1097) doesn't see any reason why money should be spent to fight wildfires in the wilderness that aren't a threat to any communities given that fire can have ecological benefits.

Charles Keller (2046) feels that aggressive wildfire suppression is expensive and a drain on agency budgets because they tend to occur frequently. He notes that wildfire suppression efforts deplete limited research money to fight fires. These expenditures hamper the ability of others who are working to understand wildfire behavior and ecology more fully in the goal of developing more effective strategies and practices for fire management.

Post-Fire Forest Recovery: Grief for Loss; Hope Through Renewal

> *After the Cerro Grande Fire, up in Los Alamos because everybody had been through the experience, there was a week or so where nobody could drive. In town, nobody knew how to drive because their heads were elsewhere.* Chris Judson (1894)

> *People would go on hikes and carry water with them, and water the seedlings because they had such a personal stake in it.* Chris Judson (1911)

Los Alamos County residents, including Dorothy Hoard, Teralene Foxx, John Hogan, Chris Judson, Charles Keller, Craig Martin, Georgia Strickfaden and Don Usner,[45] who both know the forest around their community and endured the destruction of large parts of the town, spoke eloquently of their recovery from the Cerro Grande Fire throughout their interviews. Each tells of their grief for the losses they experienced and how the forest's renewal assisted them in their recovery in their own way.

Don Usner (3539) watched the news of the Cerro Grande Fire and saw aerial video shots of his neighborhood shrouded by smoke. When the smoke had cleared, they could only see the foundation of their home, which had burned. He remembers,

> I had such mixed feelings at the time because, on the one hand, there was a sense of relief because they knew it was going to happen....Fire needed to happen... but at the same time it was that same feeling of devastation. [3544]
>
> It was surreal to see that kind of landscape where you had seen growing up this whole forest and this whole community of homes. [3545]

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[45] As a matter of legal residence, Don Usner is no longer a Los Alamos resident; however, having grown up in the town and still having family members who still live there, Usner remains a member of the extended community.

He also vividly recalls still being in a state of denial that such a wildfire could happen in Los Alamos (Usner 3540).

Georgia Strickfaden recollects, "The fire was so stressful, an ongoing, open-ended stress" (3155). She describes the stress as compounding (3336). First, people had to deal with the stress of the evacuation. They subsequently had to deal with and evaluate their home's damages. She concludes, "Grief is hard work" (3337).

Teralene Foxx thinks that our society should take the grieving process more into account after a wildfire. She does not feel that we fully appreciate how attached people become to their landscape (1042). In her opinion, losing a landscape causes grief (1043) in ways that are no less profound than the loss of a home:

> A number of people lost their homes and you knew they were grieving... You don't think losing some trees is as important as losing your home... I began to understand that it is a grief process that you go through. [Foxx 1044]

John Hogan recalls his personal sense of loss,

> People were suffering. I was suffering. I had been around fire, but... it wasn't ever my forest, my town. That's a huge difference emotionally. Even though I understood it intellectually, it was emotionally extremely difficult. [1374]
>
> I could cite chapter and verse on why it happened and the years and tree densities, but in terms of just swallowing it and coming to terms with it, I had a really hard time. [1375]

Hogan's grief was also underlain by a sense of guilt:

> I took it very personally because of the work that I was doing. I felt guilty that we had the information, but we did a piss-poor job at communicating it to the people who paid for it, meaning the American tax payer. That we knew this was inevitable. [1366]

Foxx (1053) believes that people tend to anthropomorphize trees. When they burn down, she concludes, it can feel like losing a friend or family member. "You have to look at it from a

'heart' point of view rather than a 'head' point of view. The 'heart' point of view is that there's loss, there's change, there's grief" (Foxx 1054).

Porter Swentzell (4632, 4677) offers a few insights into how people in his community, the Pueblo of Santa Clara, understood their loss and experienced their grief when the Las Conchas Fire burned through much of the headwaters of Santa Clara Canyon. The fire was a hot and sterilizing burn through the forest canopy on lands, which occupy a focal place in Santa Clara Pueblo's culture and history. Santa Clara Canyon, which physically and spiritually links the Pueblo, the Rio Grande Valley and the Valles Caldera in the heart of the Jemez Mountains as an unified whole, represents a sacred landscape whose reference and meaning dates far back in time immemorial.

Many tribal members, particularly elders who continue to hold onto traditional knowledge and belief in their everyday lives, viewed the devastation of their spiritual landscape as the fault of the people themselves. Their grief over the fire's destruction of the Santa Clara Canyon watershed was compounded by their sense of guilt for humanity's misdeeds. ..

He states that people viewed the fire as a reflection of themselves as human beings (Swentzell 4677), explaining, "We haven't been doing the things the proper way... We have not been behaving as human beings should behave" (4632). That is, in the Santa Clara Tewa Way of Thought, "just about everything can be anthropogenic." People's actions have great impact on natural events. Swentzell (4632) continues by emphasize that the ignition of the Las Conchas Fire, which was the result of the interplay of aggressive wildfire management over the past century, the consequent poor health of the woodlands wrought by overcrowding and old trees that needed to have burned long ago.

After the Cerro Grande Fire, Los Alamos' residents were not simply preoccupied with the physical damage to their community, if not also their family's home. Chris Judson, for example, speaks of driving through the burned neighborhoods because she wanted to make sure she knew all about everything that had happened to ensure that she wouldn't be disrespectful in any way. She sought perspective to help her cope with her grief (1904).

All community members could see from a distance around Los Alamos was burned trees, however (Foxx 1046). While community members were able to monitor the town's recovery easily, they could not see the renewal that was taking place in the forest (Foxx 1047).

Chris Judson tells her own continuing grief and growing frustration:

> I just keep wishing that the...dead trees would fall down because... You look up there and it's green now..., but on the ridgeline it looks like a comb because of all those damn dead trees... If they would [fall down], then it would stop reminding you, and it would stop looking like it was a burned area. [1899]

Georgia Strickfaden explains, "It really wears on you seeing the killed forest right there where there used to be living green things" (3358). She attempted to address her sense of loss by taking hikes through what remained of the forests that she has known since childhood (3341). Although she appreciated seeing new growth begin to sprout from the blackened soil (3343), these hikes were neither relaxing nor rejuvenating (3344): the forest was very hot because there was no shade (3341), the ash and acidic soil would eat away at her nylon running shoes (3660), and she was all the more aware of subsequent erosion damage on nearby hillsides (3359).

Strickfaden's continuing sense of loss manifest in her feeling that she lost the forest as a place to escape the summer heat (3342). She later went on a drive through the Jemez Mountains and realized how green, lush, and relaxing the unburned forest was (3361). "Once you get past the burned forest it was like... you melted away the weight and the reminders of the stress" (Strickfaden 3362).

Tom Ribe (3104) describes a similar sense of lasting loss following the burn of some favored locations on the east flanks of the Jemez Mountains during the Cerro Grande Fire. He has seldom revisited these settings, over the past decade, preferring unburned woodlands for solitude and safety from falling charred snags (3105). Ribe acknowledges that his reluctance to return to the burn scar reflects his expectations: it's nice to go into wooded areas but these settings no longer exist.

In face of the profound grief that they felt personally, and recognizing that their fellow community members were suffering similarly, most of the participants with strong Los Alamos ties involved themselves in community programs that involved people in the forest recovery efforts. Teralene Foxx explains that nature heals and people should be allowed to feel a part of the process to heal from their grief (1049). Community-based projects, such as the Volunteer Task Force (VTF) founded by John Hogan and Craig Martin to work on landscape renewal projects (see below), took members of the public into burn scars to assist in the forest' recovery, thereby helping people with their own recovery.

Foxx maintains that any way that you can get people involved helps in their healing process (1051). Allowing people to experience is an essential part of changing their perspective. They must be allowed to experience both the joy and the grief (1059). On the other hand, according to Foxx, if society does not allow for the grieving process to take place, people's perceptions will become negative. She laments that restoration managers often "are so afraid that people will get hurt that [they] do not allow them to experience things" (1050; also John Hogan 1410).

For her part, Foxx and Dorothy Hoard taught plant classes to help people understand wildfire ecology and the benefits of wildfire to the Jemez Mountains' forests.[46] Foxx wrote several books about fire ecology and the post-fire rejuvenation of forests for the public.[47] She also took a friend to see the aspen sprouts that had already grown above her head just within two months of the Cerro Grande Fire.[48] Her friend responded, "Now I have hope" (Foxx 1048). In

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[46] Hoard (1220) observes that people do not usually look down at the ground after a fire, and they do not see plants from a distance except the snags of burned trees.

[47] John Hogan (1402) has used Foxx's (2000) book, *Out of the Ashes*, in his work with other communities that have suffered devastating damage by wildfires. He reports that Foxx's book is amazingly powerful. "You'd watch people...and it was like they were looking at a prayer book" (1403).

[48] Chris Judson similarly has gone out to the Cerro Grande Fire burn scar almost every year to see the new growth (1907). She also takes people to the 1977 La Mesa Fire burn area to see the rejuvenation of a forest over a longer time frame and help them understand that similar recovery will happen in the Cerro Grande Fire area in the coming years (1909).

Branden Willman-Kozimor's words, although "[t]here's no forest there anymore," people can finally comprehend that "[i]t's returning forest" (3748).

John Hogan describes his passion for his involvement in the VTF's hands-on programs to assist in the rejuvenation of burned forest lands:

> I found that for me being out there in it and doing something helped me heal immensely. It helped me come to turns with it. I put my energy somewhere positive rather than being angry or sad. [1375]

Hogan was not alone in this sentiment. Chris Judson reports that during community service days designed to involve the public in its fire restoration efforts, large numbers of people (500 or so) would show up because they cared so much. "Everybody wanted to do whatever they could to help" (Judson 1912).

Craig Martin shares his observations on the ready willingness of the people of the Los Alamos community to become involved in various post-Cerro Grande Fire restoration projects:

> There were 400 families that had the catastrophe, but the rest of us didn't. What we had was our friends and neighbors suffering, and we tried to find ways that we could help them. It was obvious that you couldn't help them rebuild their houses because there was a mass of stuff that they had to go through. We all looked at other ways of helping the town. [2531]
>
> When you are part of a community that suffers that kind of event that brings the town together, you're going to look for anyway to help the town heal. [2530]

And, according to Teralene Foxx (see above), people help themselves in their personal recovery in this process.

CHAPTER 6
WILDFIRE MANAGEMENT

> *You can't fight Mother Nature with a shovel.*
> Charles Keller (2041)

> *Fire management plans have everything to do with public perception of what was the underlying set of boundary conditions for the management plan.*
> Charles Keller (2182)

Many participants, but especially Craig Allen, John Hogan, Charles Keller, Art Morrison, Tom Ribe and Don Usner, provided valuable ecological context in framing their responses to wildfire management topics. A recapitulation of the wealth of scientific observation and keen evaluation, however, are beyond the scope of this project. Nonetheless, several comments are notable and warrant mention as a foundation for the following discussion of wildfire management.

Foremost, Craig Allen is an advocate for restoring more natural processes, such as fire, in the ecological system. Current, broad-scale aggressive fire suppression policies and practices are "kind of making the [forest] resource irreparable for the enjoyment of future generations" (40). He explains further that "by restoring a more natural fire regime, you would be restoring a more open forest in a lot of these [mountain woodland] systems" (150). Allen maintains that a benefit of a reorientation of wildfire management approaches, in turn, would be a reduction in the risk of catastrophic woodland diebacks and the concomitant heightened risk of intense, large-scale wildfire that invariably accompanies an increased accumulation of dead and down detritus on the forest floor. He emphasizes a crucial point: for wildfire to spread effectively, "You need fuel continuity" (Allen 77). Wildfire management, therefore, needs to focus on the disruption of fire fuels continuities.

Charles Keller points out a critical flaw in most present-day wildfire management approaches. Trees, he observes, are the major focus of wildfire management because they have more biomass (2200) than grass and shrubs. Prescribed burning focus characteristically on saplings, shrub-like plants, grasses, etc. Craig Martin corroborates Keller's remark with his independent observation that few fire fuels mitigation efforts focus sufficient attention on downed wood, such as deadfall trees and waste produced by mechanical thinning operations. He continues,

> And it's a mistake. Even the one we did here [in Los Alamos County following the Cerro Grande Fire], the downed wood was not dealt with on the first round when [crews] were actively thinning trees. They should have done both [tree thinning and treatment of thinning waste] at the same time. Thus, we spend hours and hours and hours burning stuff. [Martin 2561]

Art Morrison highlights the intrinsically logical, natural progression in stand replacement, a process which he believes should be addressed in wildfire management policies and practices. Stand replacement "starts after a fire, it grows, it breaks apart, it gets drought; it gets insects and disease; it falls over; and it burns. Stand replacement starts all over again" (2763). Having noted that big trees not only can grow but also thrive when wildfires burn because they reduce the competition posed by dense clusters of small trees around their bases, he wryly asks a rhetorical question: "I wonder how all these big trees got here before there were people here putting them [fires] out?" (Morrison 2814).

Lastly, Don Usner offers a sobering thought warranting careful consideration when approaching the subject of wildfire management. One of the lessons of the Cerro Grande Fire, he believes, is that "there was a certain level of carelessness and arrogance that we are in control...and we can intervene confidently" (3520). While he asserts that [t]here are no places that will just be fine, if we just leave them" (3578), Usner warns, "It's very easy to think you understand fires... [A wildfire is] always a little bit bigger and more complex" than what you imagine" (3519). He concludes that overconfidence in wildfire management is "a dangerous place to be" (Usner 3520).

Need for Holistic Planning Over the Long Term

> *What is ecology?...It's not something that's out there in the woods.* Tom Jervis

Richard Ford drew upon his professional training and experience throughout a career in anthropology, with a specialization in the discipline of ethnobotany, which is the study of the web of interrelationship between people and the plants upon which they depend, upon which to base his remarks. Considering the topic of ecology and its practitioners, he notes that ecologists look at the world a little differently, seeing the effects of fire on reforestation, creating habitat, soil structure, etc. (808). To Ford, the topic of wildfire management requires the adoption of a holistic approach, including the presence and activities of humans within the ecosystem.

Craig Allen started working at Bandelier studying landscape change using a holistic approach. He won NPS support for his project. In both conceptualization and application, Allen's goal has been to work with the landscape as a whole "non-denominational view of" fire, erosion, elk, spotted owls, etc. "These phenomena, these organisms, these processes, they don't care about our fence lines, and they don't pay attention to them...You can't manage elk in isolation..." (111).

Don Usner also embraces the call of a holistic approach to wildfire management. He has a significant concern, however. He refers to a growing problem in our society of anti-intellectualism, whereby people do not seem to want to understand things on a deeper, more complex level beyond what they perceive and value emotionally or viscerally (Usner 3606).

"Let Burn"

> *Any and all the firefighting efforts by man have not stopped fires. It is only nature that has stopped fires.* Anthony Armijo (335)

Craig Martin recounts how his first experience with a wildfire manager's decision to allow a small fire ignited by lightning to burn was transformative:

> In 1980, I was a National Park Ranger at Saguaro National Monument... They needed somebody to do a backcountry tour for 10 days watching for fire. I get up there, and there was a lightning strike, and something started to burn. So I called it in. They said, 'How big is it?' 'I don't know. I can walk around it in two minutes.' They said, 'Let it burn.' What a concept! Never thought about that one before having grown up on the East Coast and in the era of Smokey the Bear! I get back to town and started reading everything I could about ponderosa pine forests and the role of fire in it, and quickly became convinced that fire was a natural part of the ponderosa pine ecosystem. [2529]

While employed as a firewatcher in California many years ago, Don Usner (3471) recalls that whenever he would spot a little smoke after a lightning strike—the burn could be "dozens and dozens of miles" from the nearest town—the USFS would invariably send out a plane with smoke jumpers. "They would spend huge resources and risk people's lives..." (3471) to engage burns that posed little threat to people and actually could have benefitted the woodland.

Bill Armstrong expresses the hope that wildfire management strategies will evolve such that fires, which are not threatening people's homes and infrastructure, will be allowed to burn (536). Given the present social and political environment, however, he states,

> If I was a line officer and had to make the decision, I wouldn't let any of them burn... Why would I as a decision maker want to risk everything? Why would I let the lightning strike burn? At what cost to my career? [537]

Armstrong recounts that in 1993, the Espanola Ranger District of the Santa Fe National Forest (SFNF), had two lightning strikes in the wilderness that were allowed to let burn. Each fire ultimately grew to about 3,000 acres in size. The Forest Supervisor afterwards told Armstrong he would never repeat his decision to allow wildfires to burn because there were so many complaints, despite the fact that the fires proved to be highly beneficial (540).

Craig Martin expresses empathy:

> Fire managers are in such a difficult position because the easiest things they can do is sit back and do nothing, and then nobody's going to be pissed off at

> them... but... [t]he only way you're going to get something done is to expose yourself... All of a sudden everybody's going to know what's inside of you. It's a scary thing... saying, 'Let's burn,' because you can't hide anymore. I think for some folks it's just hard to get over that... [2625]

Tom Ribe (3071) calls for use of natural wildfire events, such as burns caused by lightning strikes, for benefit whenever possible. He would like to see low intensity fires allowed to burn across large areas whenever possible. Although he recognizes the Wildland-Urban Interface (WUI), in which homes and infrastructure intermingle with forested tracts, Ribe (3088) advocates allowing wildfire to burn close to settlements, provided that weather and forest conditions do not pose unacceptable risks and fire teams closely monitor the burn.

Ribe suggests further that the more low-intensity fires, which wildfire management agencies allow to burn through a landscape now to reduce the fuel load, the more manageable wildfires and wildfire risk will be in the future. "This is the whole concept of the prescribed fire" (3093).

Louie Hena is another outspoken proponent of policies allowing wildfires to burn even within the WUI. He introduces the need for people to the accept responsibility for building in the forest interface (see also below).

Tom Jervis (1723) shares the opinion that if there is a large enough wild area, wildfires should be allowed to burn without human interference. He asserts, "Wait for natural fires to happen, then let them burn!" (1724). Jervis adds, "When [wildfire managers are] letting a fire burn somewhere, they should do more public outreach and tell them about it..." (1729) instead of trying to keep the fire quiet because they fear they will get persecuted if it gets out of control.

Charles Keller maintains, "[W]e have discovered that in some areas you can just let [wildfires] burn... and the fire propagates just like a controlled burn" (2208). He supports the need for additional wildfire research in the hope that if wildfire managers are able to exert "complete control over fires, so that we can put a fire out if we need to. That way, we can let them burn with impunity" (2209) when circumstances do not warrant their aggressive suppression.

Art Morrison cites the cost benefits of "let burn" policies: "Well, the least cost is to go ahead and let that stuff burn as long as it can be done relatively safely" (2795). Noting the high cost of mechanical thinning—upwards to $800 an acre, he estimates—Morrison views the careful application of a "let burn" approach as an economically reasonable means with which to reduce fire fuels loads in forests. He even goes as far as suggesting that, if favorable conditions prevail in backcountry settings, wildfire managers should consider allowing crown fires "to wipe out some of that stuff" (Morrison 2797) as a natural corrective mechanism for gravely compromised forest habitats (see also above).

Having inspected the aftermath of some of the many small burns that wildfire managers have suppressed aggressively in the Los Alamos area over the years, Dorothy Hoard concludes, "Why didn't those guys [firefighters] just stay home in bed another two hours?" (1162). Building upon her opinion that broad aggressive wildfire management is undesirable and unreasonable, Hoard holds that a management plan is needed to say where aggressive suppression will be exercised, where fires will be allowed to burn, and where mitigation, such as mechanical thinning, will be undertaken. (1233). She favors the adoption of "let burn" policies in mountain grassland settings especially; however, Hoard is careful to make clear that she feels mitigation measures other than fire use generally are appropriate around inhabited areas (1215).

Fred Lucero, speaking as life-long resident of the Jemez Valley and a rancher who runs cattle on National Forest lands, favors aggressively fighting big fires. He feels, however, that small, cooler fires should be allowed to burn given their numerous benefits to forest ecology, including the growth of grasses (4930).

When Bigger Might Be Better

Craig Allen sees tangible benefits of allowing wildfires to burn and spread in backcountry settings, as conditioned by continuities in fuels and topography. He explains that wildfire managers do not need that many ignitions if the fires that start aren't being put out. "[W]hen you have high frequency fire on these landscapes...how easy would it be for fire to spread into these places?" (81). Allen envisions a long-term management model in which wildfire not only is "burning widely in the landscape, it's burning for months because nobody is putting them out" (80).

The Value of Mosaic Burns

Dorothy Hoard considers a mosaic burn in woodland settings to a "good fire" (1239). She explains that a mosaic burn leaves places for animals to run. Seed trees survive to help with restoring and recovery.

Art Morrison (2808) adds that mosaic burns results in a patchwork of residual tree stands, often consisting of different trees species, and open areas. This diversity, he contends, provides the foundations for ecologically balanced forest recovery.

Passive-Aggressive Wildfire Management in the Backcountry

As noted previously, Tom Ribe (3070) supports the adoption of wildfire management strategies whose goal is to herd and steer fires. This tactic represents a passive-aggressive approach.

Art Morrison (2760) reports that in the past, wildfire managers used a "direct attack" method of fire intervention; however, "fuels conditions and drought regimes have made it a lot more challenging to use [a] 'direct attack,' and it is more dangerous than it would have been under more moist times or before things got as clogged up as much as they are now" "(2762). Today, wildfire managers employ more an "indirect attack" method, in which wildfire teams attempt to manage wildfires by moving ahead of their anticipated burn paths (2761).

Conservative-Aggressive Wildfire Management Within the WUI

> *There are too many of us living in the wrong place, period. The problem is a human species problem, not a human resource problem.* Art Morrison (2766)

Participants broadly agree that human settlement poses a significant wildfire management problem. Craig Martin succinctly summarizes the splendor and curse of the WUI for communities such as Los Alamos:

> The beauty of living in the West is, if you live in a small enough place, all that stuff is out your back door. When it burns, that's not good for the community. [2548]

On the one hand, Tom Jervis states the obvious: wildfire managers cannot allow fires to burn naturally around human habitation (1725). On the other hand, Art Morrison notes the obvious is often charged socially and politically that because most of the emphasis on wildfire management in this region is on the WUI in which there characteristically exist conflicting values posed by people who want to live within more "natural" settings (2805).

Morrison finds that wildfire management agencies often find themselves being criticized by the communities and environmentalists who have opposing points of view. The dilemma: what can agencies do to reduce wildfire risks to people who build their homes and communities right up against a forest? (after Morrison 276).

While aggressive suppression within the WUI might be appropriate during times of uncontrolled conflagrations that threaten property and infrastructure, as a long-term strategy, Tom Ribe (3092) feels that this approach is ultimately unsustainable. He maintains that aggressive wildfire suppression next to settlements poses a problem. This practice allows fuels to build and create a vicious circle: wildfire threats to homes and other property are high, but continued aggressive fire suppression allows fuels to continue to build, thereby resulting in ever-greater risk threats (3089). Ribe (3090) maintains that the only ways to deal effectively with wildfire threats in the WUI are to (1) prepare properties for fire and (2) to involve area residents in fulfilling this responsibility.

Don Usner offers a similar take on the propensity of wildfire managers to prefer aggressive suppression policies over the investment in the development and application of conservative-aggressive approaches. He suggests that it's much easier "to go along unconsciously and call out the big guns"—in this case, the agency's top-level fire teams—than it is to create situations of sustainability (Usner 3602).

Gilbert Sandoval (5461) provides a practical example of the consequences of this ill-fated cycle. He reports that there have been a series of wildfires around his town, Jemez Springs. As a result, local tradition of burning *acequia* (irrigation ditch) to clean them of weeds and shrubs has

become highly restricted. The canals are now becoming their own fire hazards (Sandoval (5461).

Craig Martin is an advocate of a "conservative-aggressive approach" to wildfire management within the WUI (2576). According to Martin, mitigation using a combination of prescribed burning and mechanical thinning techniques (see below) is a key component of his conservative-aggressive approach to wildfire management. He explains, that "[m]itigation has a very specific target: to reduce, or to change, the nature of fire when it happens" (2579) and "mitigation projects are dialing the system back to historic conditions" (2580).

He continues,

> You have to push for fuel mitigation at all times and all possible ways... but when it comes time to execute then you got to make sure that everything is absolutely lined up in place, and you only have a fraction of a percent doubt that things are going to go wrong. What the normal management technique is, is conservative all the way through so there's not that aggressive push to get things done and then when the time comes to make a decision, it's always, 'Well, there's too many risks.' You got to be pushing towards that goal at all times and make sure that all those risks are premitigated against, so... you've reduced the risk of an escape a thousand fold. [Martin 2577]

Martin then shares a critical appraisal of Los Alamos County's implementation of a conservative-aggressive wildfire management approach that attempts to balance the needs of both the community and the forest:

> We've reduced the threat of crown fire in Los Alamos. We have not yet reduced the risk of wildfire. We've changed the kind of fire that will enter the town. It won't be burning through tree tops. It will be burning along the ground. It's going to move fast..., so you've got to go there right away and protect houses. But it's not going to be this massive crown fire raining embers down on the town. [2572]

In responding to a question about the investment required of the community to maintain this approach over the long term, Martin states,

> It'll depend, the average is once every 10 years that you go in and do something... There are a couple things that you want to do. One is, you get a pine needle accumulation. If I'm right next to somebody's backyard fence, can I use kids to mimic fire to break away the pine needles?...In Flagstaff, they cut a fire-line, and they burn. I'm not sure we can get away with that yet [in Los Alamos County]. Thinning; I can thin a forest of seedlings and saplings with a fifth grade class?...That's the kind of thing I'm looking for in the long-term... how do I use the community to help maintain some of that fire protection that we're gained? [2609]
>
> And you know, you're not going to treat a lot of acres using the community members, but that's not the main benefit. The main benefit is having them active, having them understand what your goals and purposes are and then making them feel like they were a part of it. [2610]

It is clear from Martin's comments that his specific implementation of a conservative-aggressive wildfire management approach, in large measure, is line with Ribe's (3090 [see above]) general call for action among WUI communities. That is, Martin's conservative-aggressive approach requires the implementation of preventive measures that prepare property for wildfire and depends on the participation of community members to assist in the performance of many small, but recurrent, maintenance tasks. When these efforts are successful, such as in Martin's experience in Los Alamos County, wildfire management agencies appear to be able to diminish the potential for severe public criticism.

Who Makes the Call? And On What Basis?

> *Everybody's got to do their own part... Fire doesn't give a damn about a fence line or the line on the map.* John Hogan (1492)

Given their intimate familiarity with the Jemez Mountains, study participants recognize the wide range of ecological variability in the Jemez Mountain's forests. As such, they suggest that wildfire managers need the administrative support and tools to enable them to adjust their strategies and tactics to local circumstance accordingly.

Charles Keller (2170) states that lessons learned during one fire are only partially applicable to another fire in a different area because the different settings likely have different ecologies. He offers the fact that different tree species have different fire ecologies as an example (see also Chris Judson 1856 for a similar comment).

Teralene Foxx (1036) remarks that wildfire managers need to consider the community near where they are working. Dorothy Hoard (1251) adds that decision making requires consideration of societal values. She notes, for example, that it is reasonable to anticipate that a wildfire manager would incorporate a burn's location in making a decision about how to proceed. If a fire can't be seen from State Road 4, perhaps it should be allowed to burn? Depends on where the fire is located. A fire in the view shed is different than in the backcountry where it cannot be seen readily (Hoard 1251).

All participants agree that "one size does not fit all." Craig Allen repeated the cliché, "Think globally, act locally" (108), with measured meaningfulness mixed with subtle irony.

Art Morrison (2735) observes that wildfire managers must be able to vary their objectives in terms of the particular circumstances of each burn they are called upon to work with. Active suppression should be used on portions that require direct intervention to protect homes, infrastructure or other societal values, but so-called "let burn" tactics should be used on other portions. Morrison emphasizes that there needs to be tactical flexibility within a general strategic structure. As is seen in other land-management topics examined during these interviews, however, participants repeatedly pointed to the general lack of latitude that land

managers possess in fine-tuning their decisions with respect to local conditions, including the values and needs of their local constituencies who interact closely with the Jemez Mountains' forested lands (see below).

In sharing their experiences and opinions, participants repeatedly discussed the need for cooperation among wildfire management agencies amongst themselves (e.g., Bill Armstrong 443; Richard Ford 899; Charles Keller 2142; Craig Martin 2590, 2628, among others), as well as calling upon planners and decision makers to include local communities actively in the process. Craig Allen (112), for one, points out that the recent large fires that burned in the Jemez Mountains were not fully contained on lands administered by a single governmental body. He recommends that the VCNP, Bandelier, SFNF, LNAL, Los Alamos County, the nearby Pueblos, among others, work together.

Allen (105) maintains that regional wildfire management planning, along with wildfire treatment activities during and following a wildfire event, are all based on theoretical information until the management agencies sit together, talk about their boundaries issues and needs, and actually address how each intends to apply whatever information is available. He (114) acknowledges, nonetheless, that unless the different agencies dedicate themselves to working together the whole enterprise can become counterproductive.

Art Morrison observes, "Anytime that there's adjoining properties, it doesn't... it greatly diminishes the overall effect" (2791). Robert Dryja crisply adds, "How do you politically deal with the patchwork of private and state lands?" (689). As is examined further later in this chapter, an underlying implication of Dryja's remark is an essential question: if agencies cannot work with one another, how might residents of communities that border and depend on the Jemez Mountains' forests ever hope to be able to work with these same entities?

Allen (185) views the VCNP as occupying the heart of the Jemez Mountains. As such, he feels that it has the potential to be a catalyst for high quality conversations that help people

develop ways to create a more cooperative implementation of a common vision.[49] He explains the basis of his optimism,

> Despite the problems the Preserve has had, it may still remain the best hope...It still has potential, there is still potential for it to serve that catalytic role in the landscape because it's almost by legislative fiat in a kind of hybrid kind of a role. It has the potential to be able to broker those kinds of conversations between agencies like the Forest Service, and more preservationist elements that are out there in a landscape, and commodity users, and Puebloans...Geographically it sits right in the heart of the place. You can't manage the Jemez Mountains without dealing with the Caldera. [Allen 191]

Regarding the topic of the need for agencies to include local community members actively in wildfire management processes, Art Morrison draws upon his experiences as a USFS employee working with communities at risk during wildfires and concludes, "You've got to take advantage of local knowledge" (2775).

Morrison (2774) recounts how he would establish relationships with local communities during wildfire events. He would meet with the community's fire chief and request to hire several people highly knowledgeable of the area. These local people then work with the firefighting team members, as well as communicate valuable information about the agency's activities and needs with their neighbors through their local networks.

Having found working with local community residents highly productive, Morrison (2772) feels that agency administrators are largely responsible for the public's perception that local knowledge is not used in fighting fires. He concludes that it is the local USFS unit's responsibility to provide the fire team with the local resources and knowledge that they need to work a fire (Morrison 2773).

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[49] Craig Martin offers an observation relevant to the statement of an underlying common vision: "I think the fire community is all on the same page at this point. We're all trying to work for common goals and we're all passionate about what we do" (2625).

John Hogan (1410) agrees with Morrison's conclusion that the relationship between an agency and a community adversely affected by a wildfire event is dependent largely on the attitudes and actions of the local forest supervisor. Don Usner (3500) feels that the USFS was not interested in using the knowledge of the Los Alamos community as much as they could have during recent wildfires in the area.

Craig Martin is more charitable in his remarks about local agency managers than his counterparts. "The people who manage those burns are as much a part of the community as I am. They all live locally. They all have the same concerns" (2633). The issue, according to Martin, is one related to the culture of the agency itself: the agency, Martin maintains, effectively "doesn't have anything to do with the community" and whatever the agency does, "people aren't going to forget" (2633).

Learning from Past Mistakes

> *We have to live with our mistakes like the people of Los Alamos have to live with that mistake that Bandelier did.* Gilbert Sandoval (5462)

Don Usner (3594) finds that a good deal of human error and over confidence underlay the ignition and escape of the Cerro Grande Fire, and subsequently contributed to the magnitude of the scale and severity of the destructive force that the burn ultimately unleashed on Los Alamos.[50] He continues that the Cerro Grande Fire, whose initial ignition was a planned action for a prescribed burn to reduce fire fuel loads in the BNM next to the SFNF, confirmed many people's preconceived fears about wildfire and the need to aggressively suppress them. This response rather than being an opportunity to learn from past mistakes to develop more effective wildfire management strategies and tactics, reinforced an unsustainable model that has allowed

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[50] The interested reader should examine Tom Ribe's (2010) study, *Inferno by Committee: A History of the Cerro Grande (Los Alamos Fire, America's Worst Prescribed Fire Disaster*, for a comprehensive accounting of the many mistakes, which were complicated by uncommonly poor luck, made by wildfire managers over the course of the burn.

fuels to continue to build, thereby resulting in ever-greater risk threats over the long term (after Ribe 3089 [see above]).

Charles Keller examines a second issue that poses an impediment to wildfire managers' collective inability to learn from past mistakes for the development of more effective policies and guidelines. To paraphrase a related observation made by Don Usner (2075), the matter is a bureaucratic problem, and nobody wants to get blamed or take responsibility for errors.

Keller reports, "To this day, we cannot get the urban firefighters in the town of Los Alamos to write anything or tell anything about what happened and what they did. They won't talk about it" (2071). He maintains that because they fear lawsuits (2074), the firefighters will not talk about the decisions that were made. This silence makes it impossible for wildfire managers to learn from the fire team's difficult experiences and apply these hard-earned lessons for society's collective benefit in the next fire (2072).

Keller offers a potential solution: "We need to declare blanket amnesty; nobody gets in trouble for anything. Tell us what worked and what didn't work. Tell us lessons learned" (2076). Bill Armstrong (539) seconds Keller's proposal with his statement that there needs to be some cushion of support for the fire team line officers if they decide to allow a naturally ignited fire to burn in case something unforeseen happens that renders their earlier actions inadequate or, worse, disastrous as conditions changed.

Post-Fire Forest Stabilization and Restoration

> *So, if we allow Nature to hit the reset button, what do we do after one of these fires to create a positive legacy for the future?* Porter Swentzell (4630)

Participants' experiences and views about their personal recovery from the trauma and sense of loss caused by wildfire have been reviewed earlier in this chapter. The following discussion examines their perceptions of and attitudes toward the stabilization and restoration of forest habitats following burn events. Their major areas of concern are twofold. First, participants comment upon the threat of further damages to burned forests' physical environments and cultural resources by erosion. Second, participants share their perceptions and

experiences with harmful consequences of aggressive reseeding and uncritical tree replanting programs, which land managers implemented with the good intention of assisting burned tracts in their recovery. Respondents conclude that the process of post-fire forest stabilization and restoration should also include a reconsideration of people's values and expectations.

Tom Ribe contends that recovery "is driven by the landscape" (3068) and "[t]he forest is latent in the land" (3075). He explains that wildfire and a burned forest's rejuvenation are natural processes, however, they are both influenced by management. They are a reflection of reality. "It is what it is" (3068).

Gilbert Sandoval characterized Nature as being vulnerable immediately following a devastating wildfire. "Man has to go there... we need to reinforce the pine seed" (5409). When wildfires crown to burn through forest canopies and superheat the ground, Nature's weaknesses are most exposed.

Gregory Cajete (4004) notes that it is going to take our best minds in forest ecology just to identify the most appropriate strategies to help our forests *regenerate*. He adds perceptively,

> I think that the word 'restoration' is not a good word. Maybe 'regeneration' is a better kind of term to use because we know that it will regenerate because it is a natural phenomenon. How and what it regenerates into is the question how can we facilitate [it] into something that is healthy and viable and sustainable? [3986]

The Las Conchas Fire, just as the other wildfires in the Jemez Mountains over the past three decades, is a case study. The challenge that faces wildfire managers and communities extends across the West. Cajete states, "We don't know if we'll retain the same kind of vibrancy of the forest in future generations because the climate is changing in such unpredictable ways" (3958).

As noted earlier, the burning of a forest can bring tremendous sorrow to people who grieve the death of trees, the loss of their cooling shade, and the resetting of an ecological habitat within a landscape, which will never again be the same within the span of the lifetime of the

person who is in mourning. Martin reiterates that this loss is actually an opportunity for the return of a healthier, albeit different, habitat:

> Even when [forests] burn in a crown fire, if you're patient—meaning, don't expect instant woods—in 10 years what you're going to find is you've got something back that is a natural landscape. It's very different than the landscape you started with. It's very rich in wildlife. You'll see that it wasn't destroyed. [2553]

Martin subsequently remarks that people, however, will need to "[g]et used to a meadow where there used to be a forest" (2574).

Although a forest's recovery might take longer after a crown fire, Sandoval likewise expresses his delight that reforestation occurs. "Pretty soon, the oak will come, the aspens will come in, because those are Nature's Band-Aids, and they bind the soil together" (5408). He continues,

> Where did the seed come from? That's not for us to worry about. Ours is to worry about how to propagate the plant that's coming out now. Oh, great! And then there is the wildlife—the deer, all kinds of wildlife—that thrives because there is a food source. [Sandoval 5406]

The assistance of people—both in the form of direct intervention to prevent new damages and remediation efforts to mitigate harms already inflicted—is needed to minimize further physical disturbances to the environment by erosion while Nature works to heal itself through new plant growth (e.g., Sandoval 5410-5412).

Erosion

> *The mega-fire is ...going to...take away all the protection that the land has against water.* Charles Keller (2205)

Most participants identified the potential for erosion as the single greatest threat to forestland restoration in the immediate aftermath of a super-heated crown fire. Charles Keller

(2204), for example, notes that local topography can change dramatically in a short period of time because of erosion following a crown fire, which burns through major portions of a watershed. Speaking of his experience following the Cerro Grande Fire, Keller (2207) found that the hills around Los Alamos, in particular, have very shallow soil, such that any erosion can be extremely damaging to the area's ecology.

John Hogan adds that because the Cerro Grande Fire occurred in May, land managers and residents alike were expecting problems with runoff following spring rains. "[T]here were huge concerns about flooding and damage to town... The implementation plan called for seeding, mulching, a lot of erosion control, mitigation measures" (1369) to reduce erosion risks.

Despite the Los Alamos community's efforts, new erosion was severe. As recalled by Braden Willman-Kozimor (3730), a creek that formerly ran in a channel 2 feet wide by 2 feet deep, became a gorge that measured 80 feet wide by 8 feet deep during peak flows. Since the Las Conchas Fire, flood events bring down big boulders, and large quantities of ash, and sludge through this channel (Willman-Kozimor 3745). Robert Dryja (684) similarly reports seeing a lot of silt and rock being washed down into the streams, ruining what formerly had been clear creeks and brooks.

Erosion following wildfire not only affects topography and the hydrological characteristic of watersheds, it impacts cultural resources. Richard Ford states, "One area as an archeologist that I have been concerned about following fires is the degree of erosion that we get off the surface" (810). Craig Allen reports that archaeologists have found that "[m]ore than 90 percent of the [archaeological] sites in the woodland zones of Bandelier are being damaged by erosion...[I]t's smearing the archeological record across the landscape..." (39).

Anthony Moquino (4295) reports that concern about erosion has become a significant issue for his community, Ohkay Owingeh (formerly known by outsiders as the Pueblo of San Juan), given the cumulative adverse effect that watershed disturbance is inflicting on a variety of natural and cultural resources on burned lands across his Pueblo's traditional homeland landscape. Moquino shares that Ohkay Owingeh is now learning the mechanisms for interacting with the federal agencies to express their concerns and be an active part of the process in stabilizing and restoring forests following wildfires. In offering his remarks, Moquino makes

clear that his Pueblo links its concern about the need to reduce erosion threats in recent burn scars in the Jemez Mountains with its increasing disquiet about large-scale introduction of invasive plant species during the conduct of re-vegetation programs undertaken to stabilize the ground surface during seasonal runoff.

Aggressive Reseeding

> *Seeding is a waste. Seeding is a damaging waste.*
> Craig Allen (127)

As demonstrated in the preceding quote, Craig Allen is highly critical of reseeding programs. In the wake of the Cerro Grande Fire, Allen, just as the other persons in woodland restoration projects, recognized the risks that Los Alamos would run from runoff and resulting erosion when seasonal rains returned to the Jemez Mountains. With the long, narrow, steep watersheds through the area, everyone knew that there would be flooding and had to do everything possible to mitigate the flood risk. Reseeding was the preferred option (see also below).

Allen (120) feels that agencies tend to choose reseeding as their favored alternative because it is the cheapest, easiest thing to do. Moreover, results (i.e., germination and growth of new plants) are quickly realized. This factor is important to stakeholders who demand immediate action by wildfire managers in the wake of a devastating burn.[51]

According to Allen, there is a significant downside to aggressive reseeding: "It's mostly non-native plants, and there's no such thing as weed free [seed]" (121). Even if the reseeding contained no weeds, by interfering, people alter patterns of natural succession (Allen 126).

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[51] In the instance of the Cerro Grande Fire, which burned because a fire fuels reduction burn planned and ignited by a federal agency (BNM) went awry, the public demanded the federal government to take immediate action to begin restoring the forest. Many individuals in favor of aggressive reseeding, were also area residents who were also in mourning for the destruction of their beloved forest. It seems reasonable to suggest that the motivation of these advocates in calling for immediate reseeding might have been underscored by a desire to see activity that might help ease their sense of profound loss.

Teralene Foxx has observed problems in the Cerro Grande Fire burn scar resulting from aggressive reseeding first-hand through her inspection of settings that she had come to know well through her earlier botanical surveys. She notes that although the USFS had asked contractors for lists of their native plant species (Foxx 942). The contractors, however, did not have the native seeds in stock given the large number of large wildfires that had burned across the West that year (2000) and were in need of restoration. As a consequence, suppliers used sheep fescue, which was a non-native species, as a staple in their reseeding efforts (939). Foxx considers sheep fescue as a poor grass choice because it is a cool season grass and attracts elk. Sheep fescue also competes with the native seedlings (941). Conversely, contractors also planted slender wheat grass, which Foxx (940) thought was a positive choice even though this grass species eventually is overrun by its competitors and disappears over time.

Other Issues Related to Plant Restoration

Craig Allen (129) favors mulching as an alternative to aggressive reseeding. More expensive than broadcast seeding, Allen feels that is also more effective. He describes the standard method use as spreading straw to create a surface texture to which native seeds can attach themselves and not be washed away by runoff flows before they can establish anchoring roots. Allen admits that his preferred restoration method can have its own drawback: he believes that much of the cheat grass that was seeded after the Cerro Grande Fire came from a bad batch of straw (130). Another mulching technique consists of the spreading of the fine detritus produced during the mechanical mastication of thinned trees. If care is taken to ensure appropriate particle size and distribution, tree mastication mulch has the benefit of not introducing foreign material that might damage or otherwise disrupt the area's ecology (Allen 132).

Gilbert Sandoval, in comparison, reports that root rot introduced into the Jemez District some years ago following a fire in the Las Conchas area came from nursery trees imported from Colorado. This problem is severe; according to Sandoval, the USFS would have needed "a radical cut" (5394), plus all of the work to dig up and burn the root wads to stop the disease's spread.

Reconsidering Our Values and Expectations

> *Something like a big forest fire gives you the chance, in a sense, [for] a positive restart.* Porter Swentzell (4633)

Don Usner admits that the size and magnitude of some conflagrations, such as the Cerro Grande and Las Conchas Fire, are transformative, not only to the forest habitat that was burned, but also to the way that people think about what the burned woodland should become as it recovers. That is, the fire scarred area might never again be the same as it once was; therefore, people should not try to force the forest to be what it is not.

> I had developed in my mind a notion that even a devastating, catastrophic fire ultimately is good because it's reestablishing some sort of natural system. But it turns out that when they're allowed to get to that point, they are so hot, and their effects are so devastating that they aren't healthy and they, in fact, can cause permanent changes in the landscape. [Usner 3514]

Tito Naranjo states that the people of the traditional and historic communities, including the members of the Pueblo of Santa Clara, recognize that the U.S. government is here to stay, and government agents typically define the forest in the way they want and are most accustomed. He calls for the respectful consideration of other views. For example, Naranjo reports that the people of his community, Santa Clara Pueblo, have a different idea of reset following devastating crown fires that is quite foreign to many Anglo-American urban dwellers: "We don't even have an idea of reset. That's the way life happens, and we accept the way it happens. So, we don't even think of reset" (4417).

Porter Swentzell, who is also a member of the Pueblo of Santa Clara, remarks philosophically that burned forests "will not only regrow as they're going to grow" (4633), wildfires give people the opportunity to reevaluate our behaviors to create a more appropriate relationship with our natural communities. (4633). When asked if he thinks some forest restorations programs, even though well intentioned, might be unfitting, Swentzell (4634) responded by asking two questions of his own: (1) Are replacing trees, broadcasting seeds,

constructing flood control devices, and closing the forest appropriate?; and (2) Is hands-off management the way to proceed so we can say that our forests are again natural?

"We might have to change our perception of what the land is supposed to be" (Swentzell 4635). Maybe what was once forest and is now supposed to be open mountain range, with grasses and shrubs. People then need "to reevaluate our relationship to that changed landscape" (4635). Maybe it's not our job to plant new trees. Maybe we're supposed to take care of the trees, the other plants, and the animals that survived.

Swentzell (4636) continues: people have the opportunity to interact with the landscape in ways more favorable to wildlife. Maybe there will be so much wildlife that we now need to consider reintroducing species, such as wolves, mountain sheep and antelope, that had been eliminated over the years. Swentzell (4637) then highlights the need for people to be more flexible in their thinking, both in terms of their perceptions and values. He remarks that this is a challenge for land managers and the public alike, because people do not necessarily have appropriate frames of reference based on long-term, intimate observation of varied local areas throughout the landscape.

Gregory Cajete offers complementary observations. He begins by talking about how the Las Conchas Fire forced the question of forest restoration in the open:

> In the future, as that part of the Jemez recovers, there is the opportunity to really rethink the way that you interact with the land and landscape. That you begin to think about these less tangible, less commodifiable factors and elements. Maybe they are just as important as the commodity and economic values of the place because they're basically the ones that last much longer in the lives and generations that have interacted with the place through time. [3963]

Cajete (3964) believes that catastrophic wildfires, such as those experienced over the past two decades, present new, albeit difficult and challenging, opportunities. He talks about the restoration plan that Santa Clara Pueblo is beginning to develop for its part of the Las Conchas Fire burn scar in Santa Clara Canyon. Santa Clara's immediate goal is stabilization given the flood risk posed by the severity of the Las Conchas Fire, a process which itself will take several

years to realize (3973). The long-term goals are to help the canyon heal itself and to give it ecological stability.

> The watershed itself, we know, is going to be a 200-year+ project, maybe longer given the climate. And that... [it] won't be immature watershed, that [it] will be just a coming back of a semi-viable watershed. [Cajete 3975]

He emphasizes that people need to understand that this is a beginning of a process. It is also a time to begin educating the community of "the view of history in the making" (3972).

Cajete notes that his community realizes that Santa Clara Canyon will never be the same. The climate is changing (3965); he perceives the environment as being hotter and drier. New plant growth within the burn scar will be conditioned by these changes. Cajete (3966) anticipates that people might be looking at very different ecological system in the future and that people will need to consider several basic questions:

- How do we use the land?
- Why is it important for us to restore it to a certain place?
- What is that place we restore it to?
- How are we going to use it in the future?
- What is its purpose?

Cajete remarks that the Pueblo is considering the land's economic value and its cultural value, with the latter being viewed as more important. Nonetheless, his community

> can't deny that for a long time it was a major economic resource for the Tribe. We've lost that resource for all intents and purposes. We now have to begin to find ways to... reformat as an economic resource, but also as a cultural resource simultaneously. [3967]

The greatest challenge? "How do you balance those two kinds of viewpoints and uses of the canyon?" (Cajete 3967).

Cajete concludes that Santa Clara Pueblo's objective is not to try to restore it to what the forest was once. Rather, he sees his community's ultimate goal is to "facilitate [the forest's] naturally coming back to some place that makes it more viable than it is currently" (3970).

CHAPTER 7
FIRE FUELS MANAGEMENT

> *The risk of catastrophic wildfire is there. It's not going to go away no matter what you do, but you can mitigate the risk by doing sensible things like getting rid of some of the dog hair [pine trees], getting rid of the ladder fuels, doing lots of prescribed fires at frequent intervals to keep the ladder fuels in check.* Tom Jervis (1713)

Participants considered a variety of fire fuels management strategies, including prescribed burning, thinning and herbicides, during their interviews. All agreed with Tom Jervis that there are going to be wildfires, leaving fire fuel managers and the public to deliberate: "whether you can keep the wildfire that happens from becoming catastrophic" (1712). This point, Jervis maintains, is "the point of the management." Teralene Foxx (1060) adds that fire fuels management needs to cost effectively reduce the fuels as well as promote safety for the surrounding communities.

Greg Kendall (2459) holds that people need to consider, at the most basic level, what kind of wildfire do we want to confront: a widespread, hot, sterilizing crown fire or a relatively cooler surface fire that characteristically burns in a mosaic pattern beneficial to forest habitats ? He advocates for fire fuels management policies and strategies that create the conditions for ground-level mosaic burns.

Bill Armstrong suggests that the public needs to play an active role in the new development of fire fuels management policy, but he adds the caveat that they first need to be knowledgeable in the issues and challenges that are at stake. He maintains that fire managers and members of the general public need to be go into the woods and consider what kind of

wildfire they want to see and experience in their futures. "It's not hard to communicate the message when you're out and seeing things (Armstrong 544).

Don Usner goes as far as calling for large-scale governmental investment in fire fuels management. His comments are interesting in part because he offers justification for the costly expenditure of such a program. He also suggests the potential role that the VCNP can play in this process as a kind of research and educational center for developing and testing new fire management policies and tactics.

> Really, the only way to deal with it is to invest governmental funds on a large scale; employ people to deal with the problem. Do mechanical removal of trees. Do prescribed fire.... It's going to cost a lot of money, but not as much as it will cost if there's a catastrophic fire. It burns a lot of energy, it burns homes, and it causes problems with erosion...I think there has to be a level of investment far beyond anything that's been advocated to date. Some part of me thinks the Valles Caldera would be the perfect place to do that because we have a defined area that is under a new kind of management... [Usner 3609]

Usner concludes, "It will avoid bigger problems down the road" (3610).

Prescribed Burning

> *Can you divert some of your love for the forest to trust on another practice, that maybe your practice [aggressive fire suppression] isn't working? Have you been loving it long enough to see that there's a fallacy in there? And maybe we ought to try something that is tried and true?* Gilbert Sandoval (5470)

Most, although not all, participants endorse the use of prescribed burning as the preferred fire fuels management tool. Tom Ribe states, "It is the best we can do given the agencies as they are and public perceptions" (3082).

Among the proponents, Chris Judson draws from her fire fuels management background at Bandelier and asserts, "A prescribed fire costs maybe one tenth of what fighting a wildfire costs, but, it's easy to get money to fight a wildfire" (1936). She hopes that Bandelier, which had only recently resumed its prescribed burning program after a seven-year-long hiatus in the aftermath of the Cerro Grande Fire at the time of her interview, will be able to conduct prescribed burns on a frequent and regular basis.

Craig Allen emphasizes that conducting prescribed burning in years with favorable environmental conditions is better than sitting back and waiting for a wildfire to burn under drought and/or windy conditions when attempts to control a blaze are much more difficult. That of course, [is] the premise..., but it's not risk free. You've got to burn hot enough to have an effect" (167).

Although she views prescribed burning as the most cost effective fire fuels reduction (1061) and says that it does not seem financially possible to mechanically thin "millions of acres" of woods (1092), Teralene Foxx maintains, "Prescribed burns should be done under very specific conditions, and we hope that it does not get out of control" (1028). In follow-up discussion, Foxx subsequently explained that under appropriate weather and management conditions, the risk that a prescribed burn can escape is "very low" (1089). Nonetheless, she felt that it was important for fire fuels managers to acknowledge that there always exists the chance that a prescribed burn will become a wildfire.

Bill Armstrong, who came to understand fire as "an integral part" of pine forests as a project forester for the timber industry in the South before moving to north-central New Mexico (394), calls for a much larger scale of prescribed burning than what is currently practiced (ca. 1,000 acres per year) in the SFNF: "We're not getting anywhere with 11 or 12 thousand acres a year" (Armstrong 499). He adds, "Somehow or other, we need to be as effective as Smokey the [sic]Bear, but go the other way and say, 'Choice is, folks, not whether or not you have fire, but how it burns'" (541). "For the benefit of...society at large, this is something we need to do" (494).

Armstrong suggests that the USFS should depict Smokey Bear holding a drip torch as part of its public education efforts. Just as Foxx and the other respondents, he is careful to help

the public understand that even though every conceivable precaution may be taken in planning and igniting a prescribed burn, there remains a risk that it could become unmanageable (Armstrong 542).

In offering a dissenting opinion about the appropriateness of broad scale prescribed burning use, Greg Kendall focuses squarely on the control issue because of past personal experience. He explains his discomfort with prescribed burns:

> I have lived in three different places where controlled burns have gotten out of control and destroyed homes. [2436]
>
> If I counted up all the economic loss of all the fire, of these controlled burns that have gotten out of control, it would be billions. And [animal] lives destroyed by these things have been in thousands... [2466]
>
> The staffing level of controlled burns is extremely low. They plan for nothing to happen when they should be planning for something to happen. [2467]

Kendall allows that prescribed burning is permissible within backcountry areas removed from houses and other infrastructure. He, however, insists that fire fuels management teams need to be prepared on the ground to fight their prescribed burns "in an overwhelming way" (2461).

Several participants expressed concern over the tendency by today's fire fuels managers to conduct prescribed burning during the fall. Charles Keller (2256), Craig Martin (2523), and Gilbert Sandoval (5456} observe that wildfires characteristically occur during the spring: "It has changed vastly since the seventies... now everybody burns in the fall" (Chris Judson 1938).

Keller believes that for a prescribed burn to be effective, they need to be "wildfire-ish" (2253). He worries that the timing of prescribed burns today could interfere with the germination and growth of the seeds of fire-adapted species, thereby negatively affecting the natural ecology (2256 and 2264). Springtime burning should not be prohibited unless severe drought and winds pose threats; Keller (2263) reasons, if conditions allow, fire fuel managers could do the burn before the springtime "green-up."

Tom Ribe shares some of Keller's underlying concerns about the naturalness of a prescribed burn. Although he allows that prescribed burning may be used as a substitute for wildfire, he stresses that prescribed burning is unnatural because it burns so evenly (Ribe 3082). Wildfire, in comparison, is a dynamic, fluid process. He observes further that low-intensity prescribed burns are logistically and politically easy, but their efficiency in adjusting and correcting fire exclusion problems are challenging (3099).

Dorothy Hoard (1237) views prescribed burning as better than nothing, and allows that it has definite advantages; namely, it reduces fuel loads, which enables fire teams to exert a greater influence over wildfire under favorable conditions. She (1238) emphasizes that prescribed burning is not a substitute; it is an adjunct to allowing natural wildfires to burn in backcountry areas when possible. She also states that she wants to see fire fuel managers a use decision-making matrix based on local vegetation and weather conditions at the time that a prescribed burn is ongoing (Hoard 1288).

Craig Martin shared his experiences in planning and conducting prescribed burns in Los Alamos County. When asked about how the County's fire fuels management teams have reduced risk factors for its prescribed burns, he responds,

> Because we won't do any prescribed burning under dry conditions or windy conditions. We've had two falls and two winters [2007-2008] in a row where we've had very, very wet conditions from October to March. We've taken full advantage of that. We've had 45 burn days in that two-year span. [2567]

He then describes how the County's fire fuels teams prepare to conduct a prescribed burn:

> The most important thing is reducing fuels beforehand. You can't burn a dog-haired thicket and expect it to be a good burn. Bad things happen. Then, as the time approaches, it's a careful monitoring of weather conditions. So, we're looking for a certain amount of relative humidity recoverage [*sic*] each night. You can have 15 percent humidity during the day as long as you get recovery to 70 percent at night. We're looking at trends over time, right before the burn period. We're looking for that window when the humidity

> recovery is good, when it's dry enough to actually get something to burn, but not too dry to burn too much. It's a really complicated thing. [Martin 2601]

He describes the County's preparations in advance of a prescribed burn further:

> [Y]ou want to reduce standing fuel loads... The ideal would be 50 to 100 [trees per acre], I think we range from 80 to 140 because we're on the [WUI in Los Alamos] and there's other issues, we need to consider screening for people who live adjacent to highways or something, visual screening, from whatever, so it's a little bit thicker. Then other areas, or even the same areas, we'll go back and take the heavy stuff that would smoke a lot, pile it and burn it because you can pretty well control how much [smoke] comes off of a couple of piles, or 40 piles... [Martin 2604]

He feels that an equally important part of the County's prescribed burning program has been "getting everyone used to it. That's an important thing, just getting folks used to it" (2568). Martin continues by talking about keeping the public updated:

> The month of October and the first two weeks of November is the prescribed/broadcast burn window that we have here in Los Alamos that we feel comfortable with. It's also a little window in the spring before the winds start to kick up that mimics that condition, too. You start preparing people in September, saying, 'This window is coming up and we're going to take advantage of it if we have the opportunity, but we're also going to shut it down if things aren't right.' We've got to make sure everybody understands that... Some days, public perception has to go out the window because I just can't miss the opportunity. I hear about it, but I tell people exactly what I told you, 'My choice was to have you mad at me or to get something done that's going to help... those houses up there.' [2602]

Challenges Created by Successful, Long-Term Fire Suppression

> *[The forests have] gone too far without fire that you can't just reintroduce it...* Tom Jervis (1722)

A life-long resident of the Jemez Valley, Anthony Armijo remarks that there are dense stands of ponderosa pine and piñon (*Pinus edulis*) trees in the Jemez Mountains that have been allowed to grow into fire hazards (330). Tom Jervis finds the risk of a prescribed burn escaping is now heightened by the failure to implement prescribed burns earlier. Tom Ribe (3100) states that the challenge is that many forest systems have gone too long without wildfire. Fire fuel managers cannot use prescribed burns effectively because too many small trees survive prescribed burns.

Bill Armstrong (528) explains that to be effective at thinning the 6- to 7-inch-diameter trees, a prescribed burn has to burn at a high intensity and during riskier times of the year, such as when the vegetation is drier and winds may gust unexpectedly. Based on what he has learned from his close association with USFS personnel and seen first-hand, Hilario Romero expresses great unease for prescribed burn plans that project to use four-foot-high, which is a relatively low flame length, in woodlands with severe overgrowth:

> That would work in an old growth forest, but it won't work in the forests we have now. It will destroy them. There's too much dead and down. They're too dense. [5292]

What can fire fuel managers do? Tom Jervis (1720) believes that prescribed burns can be done at times of the year when they will burn cooler and pose less risk for escaping to become a wildfire, but this tactic accepts the fact that the reduction of fire fuel loads would be less than is desirable. Tom Ribe (3100) considers mechanical thinning as the best solution initially; however, this technique is cost prohibitive.

Bill Armstrong (529) maintains that risk can be mitigated by careful planning before igniting a prescribed burn, establishing a defensible perimeter, continually monitoring the fire's progress and weather conditions as the burn progresses, etc. He also recommends that fire fuels managers consider burning larger areas; instead of limiting a prescribed burn to 100 acres,

Armstrong advocates firing more like 1,000 acres. He reasons that it probably takes just as much funding and manpower to burn a 1,000 acre area as a smaller burn conducted at higher temperatures and flame lengths poses more of an escape risk because its perimeter is so close to the fire center. Armstrong not only expresses confidence that larger prescribed burns can be safely managed (532), he reports that one of his larger prescribed burns in Santa Fe watershed covered about 1,400 acres and comprised a beneficial mosaic burn (468, 585).

Public Relations

> *If you want people to love the environment, if you want people to take care of the environment, if you want people to understand your management, you have to let them be there to be part of it.* Teralene Foxx (1056)

Although there have been several prescribed burns that escaped and resulted in severe outcomes, including the death of a fire team member,[52] in the Jemez Mountains, 2000's Cerro Grande Fire was of such size and intensity along the Los Alamos WUI that it occupied the forefront of the public's consciousness until 2011's Las Conchas Fire. Among its many consequences, the Cerro Grande Fire contributed to the further erosion of the public's confidence in the appropriateness and safety of prescribed burns (e.g., Charles Keller 2254). Based on study participants' commentaries, it is clear that fire fuels managers in the Jemez Valley and Los Alamos areas especially have had to work hard to regain local resident's trust in their ability to conduct prescribed burns without harm to people or their property. Public relations, including the dissemination of information and area residents in fire fuels management initiatives, are crucial in managers' work to restore trust.

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[52] Frankie Toldeo, a Forest Service Forestry Aid from Jemez Pueblo, died, 5 people suffered minor injuries, and another 11 individuals had to deploy their fires shelters, near Pajarito Peak on the Zia Pueblo Reservation when 1993's Buchanan Prescribed Burn went awry (Always Remember n.d.; White 1993).

Richard Ford, who lives in Santa Fe and is aware of the continuous battles that the local government has with landowners to restrict new residential construction in fire-prone woodland areas, such as on hilltops along the WUI, recognizes another kind of resistance manifests itself among some members of the public. Some people, he observes, have a "not in my backyard attitude" (879) towards prescribed burns. He adds that although most people in Santa Fe understand that prescribed burns are necessary, those families with homes on the WUI tend to complain the most and try to prevent prescribed burning because it poses short-term inconveniences to their individual interests, all the while ignoring the long-term benefits to them and their community as a whole (878).

Teralene Foxx (1096) feels that communities should be involved and invested in the fire and fuels management options. She thinks that once people understand the management challenges and the process more fully, then it is possible to change the public perceptions about wildfire and prescribed burning (1107).

In Tom Jervis' opinion, earning the public's confidence in the use of prescribed burns has substantive challenges beyond safety issues, however. "One of my perceptions with respect to fire is that the USFS for years used 'reducing the risk of wildfire' as an excuse to do something else (1708).

Chris Judson (1882) reports that because of work by Los Alamos County, including the implementation of prescribed burns in canyons behind some of the community's residential neighborhoods, residents are increasingly understanding that prescribed burning is one "layer of prevention" to avoid another catastrophic fire in town. She also recounts that Bandelier has used press releases extensively to get information out to the public about prescribed burns within the Monument now that the NPS is permitting a resumption of prescribed burning (1942).[53] Judson

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[53] Craig Martin gives his take on Bandelier's resumption of prescribed burning after a seven-year hiatus following the Cerro Grande Fire:

> They had newspaper coverage all the time. They had a special insert for their Bandelier newsletter that was mailed to everybody in town, saying, 'We're going to do this, this fall, weather permitting.' So, they went all out. [2635]

maintains that helping people understand that prescribed burns have to occur repeatedly within a woodland to maintain their fire fuel loads within desirable levels is an important part of the fire fuel managers' public relations mission (1946). She holds firm to her conviction that it is best for fire fuel managers give the public honest answers.

Bill Armstrong (495) has learned that fire managers have to work hard to receive the support of high-level decision makers and educate them as to why it is necessary to burn, as well as interact with members of the public who voice criticisms about smoke, etc. With regard to the former, Armstrong helps decision makers understand the consequences of their actions—"I'm going to point the finger at you and say, 'Your water supply is gone because these bureaucrats made you do one less burn'" (489)—should they delay a prescribed burn and a catastrophic wildfire happens in the meantime. Concerning the latter, he maintains that the way to earn public support for the idea of a prescribed burn has to do with helping people understand where the fire will take place, how close it is to towns and high housing densities, and what risk that doing nothing about the accumulation of fire fuels poses to their community (Armstrong 495, 533). Regardless of the composition of his audience, his bottom line remains steadfast: let them know that the burns need to continue (495).

Art Morrison (2740) feels that there is now sufficient empirical evidence and experience to think that the public is more prepared to understand fires now than in the past. Communities are seeking help from the agency to prepare themselves for the inevitably of wildfire. To further this end, Morrison (2822) expresses the hope that when fire fuels managers prepare for a prescribed burn, they would invite the media to document the burn, as well as the new growth six months afterwards as part of their planning process.

Tom Ribe (3132) agrees with Morrison's assessment that much progress has been made in recent years in the realm of public trust despite the setback brought by the Cerro Grande Fire.

> [T]hey got it done... They achieved real objectives, and they got the public used to the fact that they're still going to do it... But [they are] not going to do it the same way that they did before. That's where the trust issue comes in. [2569]

He finds resistance to prescribed burning diminishing, even though some people still feel that it is better to harvest and burn fuel wood (in homes) or graze grass rather than burn it. He feels that most people are concerned about the potential of big catastrophic wildfires, either from natural ignition or prescribed burn sources, from smaller wildfires that get out of hand because of fuel loading, low moisture conditions, and/or unexpected weather events.

Ribe sees these issues as a matter for continuing public education. He relates that at Yosemite National Park, the public was allowed to see prescribe burns from the margins. This setup was a part of the park's public education process so people would better understand fire behavior (Ribe 3133). Ribe recommends that fire fuel managers in north-central New Mexico should similarly "have public prescribed fires," with staff available to explain what is being done and how the fire is behaving. Because the NPS knows how" to manage public experiences" (1310), Ribe suggests that Park Service staff might be extremely helpful contributors to the development of public outreach programs across the region.

Ribe (3091) specifically calls for the education not only of homeowners but also of institutions. Governmental agencies and insurance companies need to require homeowners' compliance in WUI settings to reduce wildfire threats to their communities through prescribed burning, other fire fuels mitigation tactics, such as mechanical thinning, and managed wildfires. He repeatedly stresses through his comments that people living in interface communities, in turn, need to accept smoke in the air and fires up to their backyard fences, both for the health of the forests and the safety of their neighborhoods (e.g., 3101).

Speaking as a member of the public who lives within the WUI and earns his living as a rancher who depends on SFNF lands for part of his livelihood as a rancher, Fred Lucero talks about USFS outreach regarding its prescribed burning activity in the Jemez Valley. He states that the USFS places announcements for prescribed burns in the local paper, *The Jemez Thunder* (4918). While he is grateful for this communication, F. Lucero adds that he and his extended family further recommend that prescribed burn notices to be broadcast on the radio, if not also on the TV.

F. Lucero (4919) credits USFS employees who live in the community as valuable sources of information about upcoming prescribed burns. He adds that the USFS is good about

informing cattlemen well in advance of a scheduled prescribed burn so they can manage their herds appropriately (F. Lucero 4920).

Craig Martin (2616) again draws on his wealth of practical experience as a fire fuels manager in Los Alamos County to describe his approach to public relations. He says that he uses newspapers and radio announcements at the start of each fire season to notify County residents of the burn schedule. These efforts have mixed results because the news becomes "old news" quickly in the media and the public's mind alike. He reports further,

> Every day, the email list goes out to people with smoke concerns. I try to get the radio and the newspaper, but that doesn't always work. This might sound crazy, but the high school has two overpasses to get kids from the parking area to the high school. That's the community banner spot. Every day that there's a burn, I'm out there at 6:30 in the morning to catch the most possible traffic going to work, and I hang two banners that say, 'Maintenance burn today. Call me if you have any questions'...That seems to be the most effective way right now because people say, 'I smelled smoke but when I drove by and saw your banner so I knew we were okay.' [2616]
>
> The other way that we involve kids is in the course of a year, every sixth grader and eighth grader comes out with us to do post-treatment monitoring of a treatment area, whether it was a burn or just an area that was thinned... We're looking at ground cover that way, to see how much ground cover has come back after a burn or after the mechanical treatment. We're also looking at canopy cover because that's an easy one for them. Just have them look up: 'What's over your heads? Is it pine needles or sky?' That gives us an indication of how effective the treatment was more than anything else. [2620]

The Los Alamos fire fuels management and forest recovery public outreach programs, including the youth educational component, have not been more widely implemented elsewhere. When asked why the Los Alamos experience has not been more broadly applied, Martin stated, "The passion has to come from within the community" (2624).

Smoke in the Air, Fire in the Backyard

> *Prescribed burning is good. The only thing we don't like is down here, we get all the smoke.* Fred Lucero (4917)

Craig Martin recalls how Los Alamos resident's concerns about the County's prescribed burn program to mitigate dangerous fire fuels loads within the WUI have changed over time as people became comfortable with managed fires near their homes:

> The first year of prescribed burning, the phone calls were, 'You're going to burn my house down.' Once everybody saw that we can do this in a safe way, last year the calls were, 'You're making me breathe smoke.' Some are just, 'I'm trying to build my deck, and I'm breathing smoke all day.' Or, the other extreme is, 'I've got asthma and every time you burn, it's a real problem for me.' [2613]

He observes further that he receives about 20 calls about smoke at the beginning of each prescribed burn season (Martin 2614). The number of smoke-related complaints usually tends to decrease significantly—by about half—over the span of the burn cycle, however. Broadcast burns are another matter:

> Well, anytime there's a broadcast burn, there are a lot of calls because that's really a smoky thing. Despite the fact that we usually plan for which way the wind usually blows and where the schools are, we take everything into consideration, somebody's still going to get affected by it. That's the cause and all I can do is say, 'Here are the factors that we used to make the decision and where we were going to do it, and when we were going to do it.' [2615]

Martin identifies a significant smoke problem that characterizes "a lot" of the dead and down wood in the forests that only prescribed burning is well suited to remediate:

> What has happened here is mostly the downed stuff is old piñon or even ponderosa that has been lying on the ground for 50 years. We don't know what the process is, but the pitch just accumulates somehow. I guess it's... as

> it desiccates, the pitch thickens. When we burn now, people say, 'Why are you burning tires?', because it's black smoke. But we're just burning the pitch. It's not what I want to put into my fireplace anyway. So a lot of this stuff is not suitable for firewood. [2563]

Martin is not dismissive of people's smoke sensitivities in planning and conducting a prescribed burn in Los Alamos County. Nonetheless, he feels that the long-term greater good for the community outweighs the short-term inconvenience suffered by a small number of residents.

> We've created a list of all the asthma people that have called and complained and they get a notice the day before we're thinking that we're going to go. All the school nurses get the same email in the morning, saying, 'Keep these kids in at recess if they have issues.' I'm not going to stop because of that... Sure I'm concerned about [smoke], but I'm not going to stop because of that. Because there's too much at stake. [2613]

Bill Armstrong shares Martin's opinion:

> I don't deny people have health related problems due to the smoke... The way I look at it is, a week or two weeks of inconvenience, versus an enormous cost that impacts a whole lot of people. [493]

He continues, "If you're smoke sensitive, then maybe you don't want to live where, in proximity, or within a fire adapted dependent ecosystem" (497). Because smoke sensitivity is such a compelling issue because it ultimately involves people's health, Armstrong (500) is not optimistic that a desirable level of prescribed burning can ever take place.

Tom Ribe (3102) has found that the intolerance of some people to smoke is a significant obstacle to fire fuels mitigation using prescribed burning. He recognizes that some people have legitimate health issues. Nonetheless, Ribe holds that a prohibition of fire is not an answer. "We want people to get used to fire. We want them to get used to smoke" (3130). Caution and care needs to be exercised, however; Ribe does not want to practice poor fire politics.

Fred Lucero (4917) reports that smoke from wildfires and prescribed burns tend to settle in the canyons in the Jemez Valley area where he and his extended family live for days on end.

Some people say that they have trouble with smoke getting inside their houses, although this discomfort has not been a problem for the Lucero Family members (F. Lucero 4917).

F. Lucero and his wife find the smoke issue a temporary inconvenience in their lives. Rather than object to a practice that provides long-term benefits, F. Lucero and his wife cope with smoke that comes down the Rio Guadalupe Canyon in which they live by simply leaving the Jemez Valley for a few days (4917).

Orlando Lucero speaks about the smoke issue. He notes that there is going to be smoke with any burn. Rather than insist on a stop to prescribed burning, he calls for fire fuel managers to develop plans for prescribed burns that minimize smoke. "In two weeks, it's done. Where you get a hot fire, that'll last a month and [bring] heavy silt, smoke. And after that, it's a mess. You've got to weigh it" (O. Lucero 5160).

Other Notable General Remarks about Prescribed Burning

When asked if he has seen any evidence that prescribed burning might remove unwanted species and enhance others, Craig Martin responded, "We haven't found any evidence for that yet. I remember looking for it. You burn a field of false tarragon, you get false tarragon back" (2600)

Tom Ribe (3076) is critical of pile burning of detritus produced during thinning operations because this practice can leave sterile patches that can take many years to recover. He believes that in the event that mechanical mulching techniques are unavailable for use at the time of tree thinning activity (see below), a prescribed broadcast burn is a better alternative.

Prescribed Burning in the VCNP

> *They've got an ideal situation for a burn. They've got roads every...place. They have some smoke concerns..., but they certainly have a lot of room for play up there...They've got certainly more control over access. I think they've got a constituency...*
> Bill Armstrong (508)

Up to the time of his participation in the present study (2008), Tom Ribe (3106) felt that the VCNP's primary focus had been on grassland management. He refers to the Preserve's prescribe burning of the Valles Toledo meadow in 2005 (3109).

The emphasis on grassland management was in place before the United States acquired major parts of the Baca Location No. 1 grant from the Dunigan Estate back in 2000.[54] For example, Ribe reports that Patrick Dunigan used prescribed fire to burn the valleys' grasses, but he never allowed these burns into the forests, a fact to which Ribe exclaims, "I don't know how they did it!" (3108).

Ribe (3106) recommends that the Preserve should become more aggressive about burning the south-facing forests in the ponderosa pine habitat, because he believes that wildfire is "inevitably likely" (3083) in the Valles.[55] Banco Bonito, a focus of much thinning in recent years, is particularly vulnerable because of its predominant ponderosa pine habitat. The mixed conifer forests on the upper north- and south-facing slopes are less likely to burn because their habitat is cooler and moister.

Ribe asserts, "Fire has to be the main element" (3095) in the Valles' fire fuels mitigation efforts because mechanical mastication[56] is expensive and unnatural. He understands from conversations with fire fuels managers that the VCNP actually would like to do more prescribed burning, but the federal bureaucracy has proven an obstacle to fire management planning in a timely manner because of National Environmental Policy Act (NEPA) requirements (3109).

Craig Martin also evaluates the VCNP's emphasis on grassland prescribed burning:

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[54] Anschuetz and Merlan (2007) and Martin (2003) provide comprehensive, complementary discussions of the Baca Location No. 1's history.

[55] Ribe's 2008 fears about catastrophic wildfires burning through the VCNP were realized in 2011 during the Los Conchas Fire, which passed through the southeast and east margins of the Preserve as a crown fire.

[56] Mastication involves the grinding of detritus produced during thinning and creating an organic mulch that enhances the growth of new vegetation. Martin (2605) reports that many contractors all over the West have machines that literally start at the top of a tree, grind their way down to the base, and broadcast small chips across the forest floor to create a mulch favorable to new plant growth.

> I think burning grasslands is an ecological benefit on the Preserve, what you're doing is maintaining the health of the ecosystem there. I can't see any other reason. It's not for fuels or anything like that. But if you go up into the hills a little bit more and you're talking about stuff that's southeast of Los Alamos, southwest of Los Alamos, that burning might have a different purpose, it might actually be fuel mitigation. [2598]

Some participants, notably individuals with ranching interests, share their approval of the VCNP's use of prescribed burning in its meadows. Gary Morton (2966), for example, maintains that grazing does not cost near as much as prescribed burns: "It costs 30 thousand bucks an acre to do a controlled burn. Let me bring my cattle on, and I won't charge you but 10" (3001). He observes further that the Baca Location's owners—namely the Bond and Dunigan Families—traditionally would burn the Valles Caldera's pastures in the spring when there was still snow, and there would be very little hazard, but it improved the grass ecosystem (2969). He adds that another option for controlling the undergrowth between prescribed burning would be for the Preserve to permit goats because they are less discriminating (i.e., they are browsers, not grazers) than cows or elk in what they feed upon (Morton 3002).

The cattlemen also recognize the value and need for prescribed burning in wooded tracts:

> Is burning that much better than grazing?...Of course, [cattle] won't graze the [excess] trees off. That's where the benefit of burning is. [Morton 2999, also 2906]

Morton (2971, 2999) states that there needs to be some burning and thinning taking place now because parts of the Preserve are so overgrown. "It can't wait another 50 years" (2971). By hesitating to act, the VCNP's managers are increasing the chances of another catastrophic fire burning through the Preserve (Morton 2972).

Morton (2967) feels that if the VCNP could afford to implement a prescribed burn program across the Valles, it would improve the Preserve greatly. Such a burn would renew all of the growth in the area and it would be able to support more cattle (2968). Morton (3000) suggests further that once a prescribed burn has been completed, cattle grazing might be used

effectively to maintain the understory such that prescribed burning could be conducted less frequently.

Many other participants generally agree with the Ribe's and Martin's assessment that the VCNP needs to make fire fuels reduction in the Preserve's woodlands a higher priority. Art Morrison (2756) views the growth of a lot of dog hair ponderosa pine in the VCNP as a "huge" fire risk. John Hogan states, "The ponderosa forest... hasn't seen fire in far too long, so it's real decadent, unhealthy, low biodiversity, almost no understory...I think for a lot of that aggressive thinning and burning is what needs to happen..." (1442) to kill some of the small trees that are crowding the forest (1444). Greg Kendall feels, "We can't rely on lightning and natural forces to do that job anymore. We need to get in there and do what was naturally done before man started suppressing everything" (2472). Tom Jervis believes that prescribed burning "as a fuels reduction technique has not been used enough on the VCNP—or elsewhere for that matter" (email to Kurt Anschuetz, dated August 2, 2013).

Although they are advocates for an increased use of prescribed burning in the Preserve's forests, several participants point out that the buildup of fire fuels poses a great challenge and the VCNP's managers need to proceed with caution. Art Morrison states, "You can't run fire through it until you've cleared up some of that mess or else you scorch out the whole stand" (2728). John Hogan (1444) and Tom Jervis (1790, 1791) call for pre-treating a proposed prescribed burn tract with thinning, if not also the closely regulated logging of trees, watching the weather closely, having contingency resources on hand.

Tom Ribe (3107) recommends the use of backfires, which are designed to burn slowly down from the tops of the ridges in long narrow strips, as a safety precaution. He emphasizes that these fires should be ignited only when there is high moisture. Ribe acknowledges that such a highly controlled burn is an unnatural fire, but he feels that accumulation of fuels on these slopes requires focused intervention to mitigate the risk of catastrophic wildfire.

Greg Kendall offers additional views about safety. He prefers to see thinning operations given precedence over prescribed burning (2456, 2470). When prescribed burning operations are implemented, Kendall wants the VCNP to "act like they expect it to get out of control" (2473). He expresses concern that the La Cueva district, upon which the VCNP depends for first

response teams, does not have sufficient equipment and manpower to ensure safety during a prescribed burn (2474). Given the VCNP's importance as a National Preserve, Kendall (2475) recommends that managers adopt a policy to have a hot shot wildfire crew on site just in case anything goes awry during a prescribed wildfire. He also made it a point to say that the VCNP administration needs to reach out to the surrounding communities to communicate what their prescribed burn plans and activities include. Kendall (2469) raised this topic because he maintains that the public was not well informed of the VCNP's plans or conduct of the prescribed burn of Valle Toledo's meadow in 2005.

Branden Willman-Kozimor suggests that prescribed burning in the VCNP presents an opportunity of needed public educational outreach (3849). The Preserve occupies a place of greater public awareness than most USFS or BLM holdings, and it is relatively accessible. She (3850) maintains that would be helpful and important for kids and the community, as a whole, to watch a prescribed burn as it happens.

John Hogan (1478) agrees with Willman-Kozimor that viewable prescribed burns should be a method of educating the public certainly under some conditions:

> I think that the Preserve is in better position to do that than a lot of places are because it is a finite amount of land... They're in a great position there to be a great example of how to do it, to be a laboratory, to bring people in, to bring fire managers in and fire researchers...To come and participate. [1445; see also Chapter 10]

He recalls that before the Dunigan Estate sold the Valles Caldera to the United States, managers had been experimenting with some broadcast burns in the meadows (Hogan 1479). The Caldera is a good venue to watch the prescribed burn.

Bill Armstrong is critical of the VCNP managers for having neither foresters nor fire fuels people on staff as of 2008. "They don't have..., from what I can tell, any expertise that's got any sort of basis of practicality" (509). He feels that individuals with professional training and experience as foresters and/or fire fuels management should have been among the first people that the Valles Caldera would have hired (510). Armstrong refers to the 2006 Valle

Toledo prescribed burn in support of his opinion, saying it was "a huge endeavor for a pretty simple operation. They just burned some grass" (512).

Dorothy Hoard (1287) expressed frustration when she repeatedly said that she has been waiting for years to see the VCNP prepare a fire management plan. She states that she would like to see the Preserve divided into areas where fires, including prescribed burns, should be allowed to burn and where fires should not be permitted.

Thinning, Mastication, and Mulching

> *Thinning is fine, but it's expensive. You do that in areas where you're protecting the values at risk—people's homes, the... hospital, the water supply, recreational areas.* Craig Martin (2555)

Apart from the often prohibitive cost of thinning operations cited by Craig Martin (also Bill Armstrong 473), respondents spoke favorably about tree thinning as one of the tools that fire fuel managers should—and do—include in their tool kit for mitigating wildfire risk. Tom Jervis (1716) represents the majority opinion that thinning should be done in conjunction with prescribed burns. He states, "I have come to believe that you have to do some kind of mechanical work to reduce the stem density and get... some of the fuel out of the woods before you burn" (1721). Art Morrison (2798, 2804) recommends that areas that have very big, old trees should be protected by thinning in conjunction with small ground fires, and ongoing maintenance activities to prevent unacceptable fire fuels accumulation in the future.[57]

Greg Kendall (2456, 2470), as reported in the prior section, invariably favors thinning over prescribed burning whenever possible. Dorothy Hoard (1289) recognizes that even if economics were not an issue, there are certain practical limits to thinning. She states mechanical thinning is usually not feasible on steep slopes and hand thinning becomes impractical when crews are dealing with 5-foot diameter trees.

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[57] Although such a long-term, integrated approach to fire fuels management is desirable, Morrison (2798) is a realist. He recognizes that such a comprehensive program is likely not feasible in today's economic environment.

When asked about the approaches he recommends for managing fire fuels in woodland settings, Craig Martin responded,

> In any way you can. But, you know, thinning is not a bad technique to use. Masticating the material on site to just reduce those fuel loads, especially the ladder fuels and the potential to create a really intense ground fire that's going to carry into the [woods], before you go in to decide to burn something... We here in [Los Alamos] County have already taken that part out by other means: mechanical, hand thinning, whatever. All we want to do [with our prescribed burning] is release the nutrients in the grasses, create good nutrient cycling, and get rid of the ground fuels. [2578]

Martin (2562) continues by talking about the need to allow masticated material to dry a short time before burning (while making a point that two years is too long a wait) and his view that members of the public should be encouraged by government agencies to harvest small diameter trees for firewood and *latillas* (poles used as secondary beams in traditional roof construction or the building of pole [a.k.a. "coyote"] fences). While acknowledging the potential for abuses that could damage the watershed, Martin (2617) expresses the belief that the recruitment of members of the general public to participate in appropriate thinning activities might yield local economic benefits to area residents if permit fees are either reduced or waived in exchange for their labor.

In making the above comment about the possibility of fire fuels managers enlisting area residents to assist in the thinning process through activities that can offer benefits to families who depend on forest products either through direct consumption (e.g., fuel wood) or some small business enterprise (e.g., supplying firewood, *latillas*, or fence poles to others), Martin raises several relevant issues. The first includes the processes by which individuals obtain formal permission by government agencies to harvest particular forest products identified for thinning. The second is ensuring that people harvesting firewood, *latillas*, and other small diameter timber resources conduct their tree thinning activities in a manner that benefits forest ecology. The careless disposal of tree branches, for example, might enhance future wildfire risk. The third consists of members of the public having established and approved vehicle access into woodland tracts requiring thinning. The final issue includes the mechanisms ensuring that members of the

public do not create new problems for a watershed through vehicle trespass, the creation of new roads, etc.

Several participants provided insights into their views about the recognition, if not also their active recruitment—of local community members by land management agencies for their tree thinning activities. Foremost, there is broad agreement that area residents, who depend on forest products for their everyday livelihoods, represent a valuable resource for their knowledge and labor alike.

The harvesting of dead and down wood, which is much favored among traditional community members over the cutting of living trees, could play a larger role in the reduction of fire fuel loads than it has heretofore. Bill Armstrong (524) observes that there is a great demand for firewood among local communities. Just as Craig Martin, he favors governmental actions that would draw from this inherent need to help the local economies at the same time it benefits the forest (see also Don Usner 3673).

Porter Swentzell (4635) advocates a "sweat equity" model. In this paradigm, agencies waive their usual permit fees in exchange for sanctioned activities that benefit the forest. (See Chapter 17 for further consideration of this idea).

In his oversight of thinning operations in the Santa Fe watershed in the Sangre de Cristo Mountains overlooking the town of Santa Fe, Bill Armstrong (454), a SFNF forester, found it useful to deviate from the USFS's usual practice of selecting and marking which trees the private contractor was to cut. Armstrong reports that the USFS seldom trusts its contractors with the selection task, but the agencies have thousands of acres to manage and limited resources, including available personnel. Because he concluded that the usual USFS protocol wasn't efficient because it required too much agency manpower, Armstrong established an open ended 5-year-long contract whereby operators were empowered to select which trees to cut within specifications defined by the USFS.

In practice, Armstrong (456) developed a strategic scope of work that specified what needed to be accomplished, while the operator was allowed the responsibility for choosing the methods for implementing the work. Armstrong monitored the undertaking, but the delegation of low-level authority contract freed him to fulfill his other responsibilities (463).

Armstrong (476) concludes that the Santa Fe Watershed Project showed that contractors are able to think outside of the box to come up with efficient solutions to problems, such as how to work in roadless areas in rough terrain that need thinning treatment. He reports that one measure of the success of this approach is that the SFNF no longer has to accept the proposal of the lowest bidder; instead, the agency can now take the best value bidder (Armstrong 527).

Anthony Armijo (331) relates how the VCNP contracted Jemez Pueblo's forestry team to mechanically thin areas on the Banco Bonito. The Pueblo founded the Walatowa Woodland Initiative (WWI) to take advantage of the small diameter forest products resulting from the thinning operations for the Pueblo's economic benefit, including the employment for some of its community members as sawyers and equipment operators (Armijo 332, 334). The WWI also has worked under contract to the SFNF and the Pueblo itself. WWI has since partnered with Varela Timber out of Santa Fe and Las Vegas; together, they conducted a logging sale on the forested lands on the west side of the Jemez Mountains.

John Hogan (1468) supports the idea of land management agencies working with nearby rural communities. He would like to see an investment in teaching people about sustainability and training them to apply these lessons in the field so they can become "guardians" of the forest even while they harvest forest products needed for their livelihood. He further hopes these efforts would result in tree thinning crew members leaving many more young trees standing after the completion of their activities (Hogan 1470). He explains that this practice is needed because it provides "a hedge" against climate change by leaving a more diverse age mix in treated woodland settings.

This "restoration" training would also help protect thinned woodland from becoming a groomed "plantation" (Hogan 1459). Although motivated by good intensions, Hogan has found that many people tend to cut down misshapen trees. Their ideal is based on timber production, and it takes a lot of the character out of the forest (Hogan 1458).

Hogan considered one additional area of concern in his remarks about tree thinning. He has found that work in planning thinning operations can be difficult because fire fuel managers often spend a good deal of time in consultation with environmental groups, which are not always the best informed about thinning beforehand (Hogan 1447). As a result, discussions can get

bogged down over the issue of managers not wanting to specify a strict diameter cap for thinned trees. He explains,

> What it boils down to in the case of ponderosa is take most of the younger trees, leave most of the big older trees. Conceptually, it's that simple, but to get it on paper to get it approved, you're pretty much trapped into saying things like 9-inch-diameter cap. [Hogan 1448]

He notes that diameter caps do not take into consideration different topographical aspects, structure, species aspects, elevation, canopy closure, etc. (Hogan 1449). Additionally, forest vegetation simulator models show that the best result from a fire and fuels perspective over time is restoration treatment, not just thinning (1443).

With respect to his preferences to use thinning for forest restoration (after Hogan 1453), he notes,

> The way ponderosa grows is generally in even age stands because it establishes and pulses when conditions are right. It grows in a mosaic, you get individuals and clumps... A lot of it is about skill on the ground... For instance, even a ponderosa forest with a north aspect, you might leave more Douglas fir; on a south aspect, you'd take it all out... [Hogan 1450]

He recommends a diverse mix of trees be left in canyon bottom settings and use of treatments that encourage deciduous trees to re-establish because they form a natural firebreak (1451).

Herbicides

Participants are generally wary of herbicide use to manage plant growth in forest settings. Dorothy Hoard (1293) concedes that herbicides have been used on local patches of invasive plants, especially along roads, with success; however, she warns that herbicides are nondiscriminatory. Teralene Foxx (1094) is opposed to herbicides because the chemicals have other consequences and side effects that can negatively impact the environment. Tom Jervis thinks that herbicide use is okay "at the right time" (1792).

Craig Martin doubts the usefulness of herbicides in fire fuels management. In fact, he finds the prospect of the large-scale use of chemicals "scary" (2618). He explains further,

> Herbicides need to be applied on a small scale, and fuel treatments are not small scale. But, in terms of habitat structure, I don't have any problem with eradicating a really seriously invasive species with an herbicide. [2618]

> We have a big problem here [in Los Alamos County]. There's a couple of species that spread out into open space from people's gardens. Dalmatian toadflax is the best example. Once it gets a hold, it just starts spreading. When I first saw it, it was five plants. The next year I went back to monitor the site, it was fifty plants. I said, 'I'm going to dig them all up.' Well, I dug them all up, and the next year there were 100 plants!...There are times when it's [herbicide use is] appropriate on a small scale. [2619]

Landowner Responsibilities

> *Having your house burn down...focuses your attention: Why does this happen? What are the dynamics?* Charles Keller (2031)

As noted earlier, Tom Ribe (3090) is a proponent of landowners in WUI settings taking responsibility for fireproofing their property. He is not alone in this judgement. Louie Hena (4079) speaks critically of people who are "foolish" enough to choose to build their homes on tops of hills given the fact that fires tend to spread uphill but then advocate for aggressive fire suppression by government agencies to protect their properties. Tom Jervis states bluntly, "I'm a believer that homeowners are responsible, number one..." (1926). Teralene Foxx (1037) maintains that firefighters should not have to risk their lives because people did not make their homes more defensible.

In fact nearly all participants, including the two individuals (Charles Keller and Don Usner) whose families lost their homes when the Cerro Grande Fire burned into Los Alamos, signal their support for this proposition either directly or indirectly. Charles Keller readily states,

"I will admit I lost it [his home] out of ignorance" (2047). Usner accepts the responsibility of his family losing its residence for a different kind of personal shortcoming:

> I think all of us are guilty of that laziness where, I don't want to do what I need to do day-to-day, every day: take care of my yard, think about where I build my house, care for the vegetation properly—all the things you need to do around your immediate environment, as well as in the interface. [3603]

Keller recalls that Los Alamos County officials had held a meeting for the public prior to the Cerro Grande Fire to inform citizens of their responsibility and things they could do to prevent their homes from burning during a wildfire (2048). The meeting was very poorly attended, however; Keller was one of those who did not attend.

As the Cerro Grande Fire approached Los Alamos, Keller (2064) took some time to rake up the pine needles and other debris surrounding his home, but he was ignorant about what he needed to do to create defensible space. Consequently, he lost his house. In comparison, Georgia Strickfaden (3329) was somewhat more proactive in her preparations and mowed her property prior to her family evacuating in advance of the fire. The Cerro Grande Fire soon after burned across her property as a ground fire, vaporizing a wood bench and damaging her home's windows, her residence did not burn unlike those of several of her neighbors. Strickfaden believes that her preventative measures helped save her home.

Speaking from hard learned experience, Keller says, "

> Make your space defensible. Fires need something to burn. They don't just magically get your house. [2049]
>
> It is, in many cases, very simple to protect your house. [2052]

Tom Jervis (1739, 1742) holds that people need to be taught to make their homes, as well as its contents, defensible if they are going to take the risk of living in the woods.

> We have to convince people that, yes, there is a risk, but (a) it's mitigatable [sic], (b) it's small, [and] (c) you can protect yourself against this risk in a number of ways... You have to decide what's important to you. [1743]

For his part, Jervis reports that he had been gradually thinning the old trees in his backyard before the Cerro Grande Fire and his home did not burn. He had found it difficult to cut the trees down, however (1627).

Rather than holding government ultimately responsible for private property loss due to wildfire in the WUI, Keller and Jervis back the idea of government institutions and insurance companies establishing policies that encourage landowners to do the right thing and then reward them for their compliance. Jervis (1741) notes that insurance companies are starting to make it a requirement for landowners, who live in a wildfire danger area, to demonstrate that their property is fire safe before they can purchase coverage. Additionally,

> There should be established, legally defined, forest interface zones where you're told you're in a forest interface, insurance is going to cost more... There is a community public interest in people understanding that they are in that zone. [Jervis 1744]

Jervis, however, does not want insurance companies to treat all WUI residents as representing a uniform group. He feels that people who live in the WUI and fulfill their responsibilities of making their properties defensible against wildfire, should receive credit for their activities:

> I'm appalled by the fact that insurance companies don't care if you're fire safe. They raise your premium if you live in a forest, but they won't lower your premium if you make your home defensible. [1740]

Keller recounts that the Cerro Grande Fire burned through some of Los Alamos' in a step-wise manner, with the burning of one house fueling the destruction of its next closest neighbor, and so on. He concludes, "If your next-door-neighbor doesn't [clear debris], your next-door-neighbor's house can get your house" (2065), and raises a question, "Can I sue my next-door neighbor for burning my house down because he wouldn't clean up his backyard, and his house caught fire and burned mine?" (2287). Keller (2288) feels that if private property owners were held legally and fiscally responsible for their actions (or inactions?) in maintaining their properties, a lot more people would make their homes defensible.

CHAPTER 8
PUBLIC PERCEPTIONS OF WILDERNESS

Wilderness

> *Our forefathers, our ancestors had the wildness on the outside and they longed for civilization, but now we've achieved that civilization and the wildness is on the inside, and we all crave that wildness.* Gary Morton (3012), citing *Lonesome Dove* by Larry McMurtry (1985)

Participants offer a diversity of opinions about the meaning of wilderness and the scope of what constitutes meaningful relationships with wilderness tracts. Their responses reveal as much about the organization and purpose of their interactions with wilderness lands as the cultural contexts in which they learned about the Natural World itself.

Art Morrison states, "I'm so indoctrinated with the Wilderness Act [of 1964]: 'Untrammeled by Man,' and all the rest of it" (2712; see also Chapter 2). In his mind, wilderness lacks roads and mechanized vehicles, although he considers the presence of "some" horses as acceptable (2716). He enjoys being in the wilderness hunting and fishing because it allows him to reflect on everything away from it all (Morrison 2826).

Gilbert Sandoval follows Howard Zahniser's wording in the Wilderness Act of 1964 (United States Public Law 88-577; see Chapter 2) when he defines wilderness as "an area untrammeled by man" (5397). Sandoval (5398) carefully differentiates between "wilderness" as an environmental idea from "wilderness" as an administrative unit. He says that "wilderness" management units, such as the San Pedro, Pecos, Dome, and Bandelier wilderness areas come

close to the idea, but they have been impacted by humans in the past, even though have restricted access and use today.

Sandoval advocates placing limits on the definition of new wilderness management tracts:

> Already enough land has been taken out of production... [land] that's already designated as 'wilderness'... We have to be satisfied with that. [5399]

He notes that even though designated wilderness areas are open for grazing, there are "probably not enough" (5400) accessible to people for uses other than recreation. Sandoval notes that "grazing reduces fuels load... helps in making it receptive to a low-intensity burn, which is really beneficial... that is, part of Nature's way of healing itself, or making habitat for animals" (5400).

Speaking from her perspective as a career NPS employee, Chris Judson tends "to think of wilderness with a capital 'W'" (1915). She notes that Bandelier is a legally designated wilderness (1914), saying that the Bandelier Wilderness is a capital "W" wilderness, as opposed to a generic little "w" wilderness. It is a place that is, by law, a "wilderness" (1916). Judson tells that she was at Bandelier when it received the wilderness designation for some of its backcountry area. To her, this wilderness title adds "one more layer of protection" (1921) for the Monument. No one can ever pressure Bandelier into building a road or other infrastructure in its designated wilderness (1922).

Judson (1919) explains that a capital 'W' wilderness has restrictions about what a person can and cannot do. She adds that when people go to Bandelier to obtain a wilderness permit for its wilderness area, staff informs them of the rules that are associated with the privilege of receiving the permit (1918). In comparison, noncapital 'w' wilderness areas are something else: they are backcountry, or wild country. They can even be untrammeled, but they not legally designated as "wilderness" (Judson 1920).

To Tom Jervis "wilderness is wilder than the Wilderness Act" (1628). He considers modern construct of wilderness as referring to a place where the only resources a person has are those that they brought. "You can't rely on somebody else to help you out if you get in trouble"

(1632). In comparison, "A pristine natural landscape is an ecosystem functioning as it should within the range of natural variation" (1633).

Jervis (1634) maintains that people can be a part of the natural ecosystem, but they can exist only at very low densities. All animals modify the ecosystems they live in. Because there are so many humans, people modify the natural ecosystem to an extent that breaks the natural functioning of the ecosystem. Consequently, humans should recognize their dominance of a landscape in the natural working forces of an ecosystem (1635). He believes that it is fine for humans to micro-manage an ecosystem if they are dependent on its resources (1666); however, if people do not depend on a landscape, such as a wilderness, for resources, then he feels that its ecosystem should be able to function largely independent of humans.

Jervis asserts, "Much of what we call wilderness, isn't" (1639). He likes the legal concept of wilderness, as expressed in the Wilderness Act of 1964 (see Chapter 2). He considers it to be a wonderful way to preserve land as close to a natural ecosystem as possible (1641).

Jervis shares the observation that Americans today "look at wilderness from too far away. Even when we're close to it, we don't look at it" (1643). One of the things that he has learned to do in wilderness areas is to spot the signs of human interference (1644), then he tries to imagine what the area might have looked like before human interference in its natural state (1645).

Jervis closes, "I think to some extent that what we see is what we look for" (1646). He thinks that people carry a certain idea of what a wilderness is in their head, and they look for this ideal in nature.

Branden Willman-Kozimor notes,

> Wilderness to me is a place where...machines, cars, and motorcycles are not allowed to go. I guess that's the 'official wilderness areas.' Places where the forest is left to itself and not to human manipulation other than maybe [people] passing through. [3793]

She adds that a "natural" or "pristine" landscape similarly has no buildings. "I would say it's similar to wilderness. Not influenced by humans in obvious ways..." (Willman-Kozimor 3794).

Greg Kendall (2411) defines wilderness as a place that contains no structures, and few, if any, paved roads. "Wilderness could be desert. It could be forest. It could be mountains. But basically, wilderness is where the number of people is going to be extremely low" (2412).

Robert Dryja introduces proximity to human settlement as an additional criterion of wilderness. At a base level, he views wilderness as a large area with low human population and represents how nature existed 200 years ago (638). He maintains that in "[t]hose areas that are closest to Albuquerque, you find the least wilderness" (656). Dryja characterizes the proximity of human settlement as another factor that reduces one's "wilderness experience" (686).

Charles Keller (2078) views the wilderness experience as an aesthetic response to being in a "wild area." "Wilderness, to me, is a place where non-human interactions are causing what you see there" (2080). He adds that wilderness is an interaction of nature largely or relatively independent of humans (2081).

Craig Martin differentiates wilderness areas from pristine landscapes:

> Wilderness is a place where I can go and not feel that I'll be interrupted by any form of human intervention for a time. There can be cow pies there—that's human intervention—what I'm looking for is solitude, isolation, a chance to be with myself and my family with no external interruptions. [2537]

A pristine, natural landscape, in contrast, is where there are no "signs of human resource management or extraction" (2538). Martin suggests that some of the region's highest mountain peaks might fulfill his definition of "pristine."

Dorothy Hoard remarks that she has thought about wilderness, its meaning, and its uses a great deal. She defines wilderness as "A place where...Man has not set foot" (1172). In her opinion, there may be pristine, natural landscapes in the middle of Alaska that would fulfill her wilderness definition, but suggests that there are none in the lower 48 states.

Hoard is known by many long-time residents of Los Alamos as "the Mother of the Bandelier Wilderness" for her work in helping the unit of the Bandelier National Monument receive is wilderness designation.[58] She observes, however, that the Bandelier Wilderness does not fulfill her expectation of a "true" wilderness: "Look at all those [Ancestral Pueblo] ruins all over the place!" (1182). She explains that Congress passed legislation that recognizes any cultural property over 50 years old as a "historic" cultural property. For this reason, the large number of archaeological resources within the Bandelier Wilderness did not disqualify this tract from receiving its wilderness designation.

Hoard thinks that proponents of governmental wilderness designations need to consider what they are advocating carefully: "I have to know where your boundary is and what goes on inside of it" (1177). She maintains that there are legitimate enterprises to be done in the forest tracts listed as wilderness areas and is critical of the Sierra club and other environmental organizations for not considering the people who depend on grazing and ranching. "You can graze in the wilderness (1176). Because some wilderness proponents are highly vocal about excluding most traditional forest uses in woodland wilderness tracts, Hoard describes the "wilderness business" as being traumatic for the USFS. "All of a sudden they were the enemy," but "[t]hey love the forests, too" (1183).

Teralene Foxx states, "I think of wilderness as a mountaintop with an unobstructed view. I think of wilderness as sitting by a stream that gurgles" (974). Although she does not depict wilderness as being devoid of people (973), she views wilderness as a place that does not have an "excess of people" (977).

She continues, "I don't think wilderness has to be pristine. There is very little that is pristine in this country" (978).

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[58] Hoard refuses to accept this moniker; instead, she credits Manuel Lujan as the principal force behind the creation of the Bandelier Wilderness while he served in the U.S. Congress. She only admits to talking with Congressman Lujan "a lot" about the Bandelier Wilderness.

> The word pristine is a misnomer because probably the only time it was ever pristine was before there were any Native Americans, any European animals, and beyond that we can't say that any of it is pristine. [Foxx 979]

Foxx (984) believes that when any part of an area is developed, wilderness is removed from it. By Foxx's definition, any place that has ever had cattle or sheep grazing on it cannot be considered pristine. She notes further that, elk can be very devastating to an area, even though people see them as being more "pristine" than cattle, which, Foxx notes, "are not a part of my wilderness image" 1067).

Orlando and Fred Lucero, who still depend on the Jemez Mountains' backcountry forests for part of their livelihood, share a perspective that includes cattle in the wilderness. O. Lucero (5156) distinguishes between wilderness as a management or study unit from wilderness as a pristine environment not affected by people. In his ranch work, he frequently interacts with designated wilderness tracts, explaining, "People can enter wilderness, but wilderness has no roads or logging" (5156). Speaking of "wilderness as pristine environment," O. Lucero (5156, also 5199) maintains steadfastly throughout his comments that there is hardly any wilderness in the United States. He explains that a person has to go to Alaska or Canada.

Given his ranching background and interests, F. Lucero similarly tends to view wilderness in terms of a land management unit. He notes that no motorized vehicles or wood cutting are permitted (4933). Although grazing is allowed, the principal use of wilderness is recreational enjoyment.

While he acknowledges that in those rare places where "wilderness as pristine environment" exists, it is "good for the soul" (4936), F. Lucero, joins his brother Orlando in saying, "I'm not totally in favor of it [wilderness designations]" (4934) in settings in which people have culturally and historically depended on the land for their existence.

F. Lucero (4935) favors the definition of wilderness zones beyond a half-mile along the sides of roads to provide people with access into a forest (4935). He points out that prohibitions on the harvesting of fuel wood in wilderness tracts have contributed to their increased risk of wildfires (4936).

Gary Morton contends that wilderness is "where there's very little human footprint" (3010). In true wilderness, such as may still be experienced in some backcountry areas of Canada, he thinks, "Anything you did in that environment improved it...That is not the case here" (3011). Nonetheless, still thinking of Larry McMurty's (1985) thoughts on wilderness in his book *Lonesome Dove* (see above), Morton maintains, "The wildness is still there, but it's gone from the outside to the inside" (3013).

Georgia Strickfaden defines wilderness as an "untouched, undeveloped area" (3372); she cites "deep forest" (3375) as an example. Strickfaden (3373) then observes that there are very few places remaining on earth that are untouched by humans.

Tom Ribe (3044) finds that of the places that he has seen, wilderness is limited to the Alaskan backcountry. He explains that the full range of predators is present in this habitat. Fire is also mostly allowed to burn without suppression. There are no cattle ranching or logging operations. There are relatively few roads. Ribe regards wilderness as places where "natural processes" (3044) remain intact.

Importantly, Ribe (3047) feels that humans can be part of a wilderness. He observes that many people, including commodity-driven land managers in the NPS and the VCNP are aware of the need to restore natural processes as a way to restore the landscape's resilience in the face of impacts brought by drought, temperature, and fire. "A lot of...very scientifically attuned human resource management is highly appropriate, especially in...the wild patches that we have left" (Ribe 3048). Active management, therefore, can contribute to the wilderness qualities of a landscape by enhancing its diversity and resilience.

Don Usner (3556) relates that while growing up, he felt that wilderness was a place where people had never been; that is, wilderness was completely untouched by the hand of man. "As a word, I think ['wilderness' is] sort of an outdated concept. The word means something different to me now" (3555).

> I think it was a very naïve, and really ultimately sterile notion that I had...that it was kind of...a notion of the privileged white upper class and middle class, of places they can go to play where they wouldn't have to see anyone else. [3560]

Usner (3563) explains that he now feels that wilderness is a place where people are not generally found, but he recognizes that there are very few places that have been untouched by humans (3557) and human impact is measurable everywhere. "Virtually every place on the planet has been visited and utilized, if not lived in, and it has been altered and affected in many, many ways" (3558).

> The idea that you can exclude humans from any story of nature, I think humans are part of the equation in anything that you say eventually because even if you were to find a place where nobody had ever set foot, you're setting foot there. You're bringing your human history and perceptions, biases, and cultural understanding. [3559]

To provide an example, Usner (3565) suggests that in the Western tradition, people assume that because they do not use an area for their daily activities, such as buying groceries, and few people recall that others culturally and historically formerly relied on these same tracts for their everyday livelihood, those places have become associated with wilderness. In former times, however, these same places had been "integrated into community consciousness and life" (3565) in a different way.

Usner shares several conclusions. "I understand now that it's not possible to have a place where we don't have responsibility for" (3562). "I think culturally, societally, individually, and personally the concept of wilderness has evolved alongside the concept of the role of fire in sort of parallel ways" (3575).

Richard Ford reveals his anthropological training and experience when he observes,

> I see the wilderness as both a natural phenomenon, as well as a psychological phenomenon. The natural phenomenon is not having it filled with a variety of modern impositions, roads, houses, easy access for vehicles. The psychological side is a place where you can go to with the absence of all those cultural amenities. You can put yourself in another world or universe almost by absorbing the sounds, smell, and ability to negotiate in an area that has not been predetermined where you can go or what you can do. [820]

Anthony Moquino talks about wilderness in terms of a formal management concept, but he then associates wilderness with "pristine habitat" (4300). He characterizes the Jemez Mountains as being pristine during the time of his Pueblo ancestors before European colonization at the end of the sixteenth century even though the people depended on the forest and its resources for their livelihood. "There was no management" (4301).

Louie Hena states, "We have no word for wilderness in Indian Country, but we have plenty of places in wilderness country... People have always been part of the landscape" (4090). He adds that the government erects fences to keep people out of wilderness.

Porter Swentzell (4609) builds on Hena's view of humans being inseparable from wilderness. He finds the common Western abstractions for the ideas of "wilderness" and "nature" teach people to think that they are different and special in the world, whereas the Pueblos emphasize the interconnectedness of people with everything else in their landscapes:

> People have a duty to the natural world... There's no such thing as a nonhuman environment. Every last inch of the land was modified and altered by people moving around, but working at a level that was not destructive... and not following unnatural patterns. [4609]

Gregory Cajete (4011) found the question, "What is wilderness?," to comprise a huge and basic issue. He refers to Richard Louv's (2008) book, *Last Child in the Woods* in framing his response and describes Louv's thesis as the need for children to engage with plants, animals, and wild places so they are able to develop an affinity for the Natural World.

In noting the importance of environmental education as a foundation for building a healthy relationship with nature, Cajete (4012, 4017) recognizes that wilderness is decidedly a cultural construct. Without opportunities for first-hand experience with plants, animals, and wild places,

> Nature becomes not something you can relate to, but something that you can study in Biology or some other science. But it's not something you are directly related to; it's outside yourself. [Cajete 4019]

Cajete reasons that wilderness understandings among many Anglo Americans are characteristically rooted in fear of the Natural World.[59] He maintains further that when a fearful view of Nature prevails, there will be a tendency for the "preservation" of wilderness rather than the development of sustainable policies and practices to maintain wilderness (4011). In this process,

> the preserve becomes even more 'preserved'... And it reaches a point where... the understory builds up, tilts up, and builds up over time. Then you have mega fires. [4001]

Roberto Valdez views wilderness as "an artificial construct" (5610) imposed on land once settled by human populations. He cites federal legislation and describes wilderness as a land management unit. Valdez illustrates the artificiality of this idea in the example of the Chama River Canyon Wilderness that was imposed upon the Cañon de San Joaquin del Rio de Chama just north of the Jemez Mountains, which his ancestors settled (email to Kurt Anschuetz, September 2, 2013). This community, Cañon de San Joaquin del Rio de Chama, was drastically reduced through adjudication by the early twentieth century, however. Valdez relates that a homestead community, called Chama Arriba, soon followed, but the homesteader's patents were subsequently extinguished because they failed to fulfill the requirements of settlement because of their lack of access to the river for irrigation rendered their farming efforts unsuccessful. This community and its cemetery are enveloped by the designated Chama River Canyon Wilderness Area.

Valdez recognizes that conflicts arise when people's perceptions and experiences of wilderness do not match. "They think that wilderness is supposed to be a pristine, non-man involved area of land" (5612). He notes the irony that the recreation actually increases the human presence in wilderness tracts. After all, governmental agencies identify and advertise the existence of designated wilderness units. He concludes, "I seldom go into [designated]

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[59] Cajete maintains, in comparison, that Native Americans traditionally

> were very much of the mindset that we were part of nature, we were integrated with it. Nature was asked. There was not a fear of the Natural World. There was a respect for it.... [4016]

wilderness. I find the equivalent of wilderness in many other places that are not designated as such" (5613).

Debbie Carrillo defines wilderness as "open space and just real serene" (4801) and adds that it "might be some place that I don't know" (4822). Her addition of the criterion of unfamiliarity in her wilderness definition underscores her characterization of one of her family's historical homeland areas, Vallecitos, in some of the same terms that she uses to describe wilderness: "serene, serenity" (4820; see also *Querencia/Topophilia* in Chapter 14). He husband, Charlie, keenly observes that home and wilderness "are opposite sides of the same coin" (4821).

To conclude this discussion of participants' understandings of wilderness, Fred Vigil believes, "Wilderness is not wild. Wilderness is where a lot of things can happen" (5743). Wilderness is where animals, humans, and plants live together and use it. "I never thought it... was a wild thing or a scary thing" (5743). It can swallow you, you can get lost, or you can be hurt.

Vigil includes cattle in his understanding of the wilderness concept because he views wilderness as a web of relationships of people with in their hinterland environment. As a cattleman at heart, his recalls his experiences in a wilderness complete with the presence of cattle as "spiritual:"

> I remember the older cattle growers, when we would get together, they would always pray the rosary at night around a big fire after a big meal of bacon, potatoes, and beans... I would be right next to my dad, almost half asleep, and they would be praying the rosary. It was so nice to sleep with. [5743]

With these remembrances of his wilderness experience, Vigil, just as Debbie Carrillo mentioned previously (see above), equates wilderness with home. He explains that a portion of the rosary is devoted to prayer for other people. Although he did not know many of the people that his father and the other cattlemen mentioned around the fire, Vigil always liked this tradition because it comprised a "genealogy in space" (5743). Moreover, Vigil describes the rite was an effort by the cattlemen to recognize one another. This wilderness ritual "kept the community together" (5743).

Is the VCNP Wilderness?

> *Rode hard and put away wet!* Tom Jervis, recalling a common saying in northern New Mexico to describe a well-worn landscape, among other things (1636)

Art Morrison states, "It's been so heavily multiple-used before it came into federal ownership" (2721). The many roads, the logging, and the open valleys used for grazing do not fulfill his expectations of a pristine wilderness. In his view, the Valles Caldera is also too small a tract to qualify for legal wilderness designation (2720).

> I see it as a remarkable resource. It's beautiful, I'm not saying that, but it doesn't meet, for me anyhow, whatever the characteristics that I like to have when I have an outdoor recreational experience. [2724]

He realizes that for people who do not share his background in wilderness, the VCNP may seem to them to be a pristine wilderness (Morrison 2725). He adds that when New Mexico's Senator Jeff Bingaman spear-headed the passage of the bill for the VCNP, the media commonly ran stories about just how pristine the area is. Nonetheless, Morrison continues, "if this was National Forest system they wouldn't be saying that. They'd be saying this place has been devastated" (2722).

Bill Armstrong thinks people believe that the VCNP is a "pristine jewel" (555). In his opinion, however, the Valles Caldera is not pristine, except maybe from a distance.

Branden Willman-Kozimor remarks,

> I would say that [the Valles Caldera] are natural landscapes but not wilderness. There has been so much human history and influence on the Preserve, and throughout the Jemez Mountains. Lots of mining, lots of motorcycle paths cut through the mountains. I certainly wouldn't call most of the Jemez wilderness. [3795]

Despite its modifications, she concludes that the human history in the Valles Caldera is important to preserve, even if it's not pristine (Willman-Kozimor 3798).

Charles Keller feels that the VCNP is not the same kind of wilderness, such as one finds in high-altitude wilderness areas like parts of Idaho. Human interference, such as people's grazing practices, has changed the Valles dramatically. He contends, "Very little of the Valles Caldera is pristine wilderness" (2085) and believes that some of the National Forest land, such as the San Pedro Parks Wilderness is in a more pristine condition than the Valles (2135) even though it is similarly grazed (2184).

Despite these qualifications, Keller (2085) believes that the VCNP has a remarkable, dramatic effect on people who visit. "This is a remarkable area of upland woods, mixed conifer, aspen, and great vistas of range with streams going through it" (2096). He explains that from a distance, a visitor cannot tell that the VCNP is not pristine. Only up close do people begin to notice the effects of the cattle and other human influences (2086). Keller feels that people want to see the VCNP "come back" (2087) and become more pristine; people want the wilderness to reclaim the area (2088).

Craig Martin applauds the Board of Trustees (the Trust) for its approach to the management of the VCNP in ways that have maintained qualities of solitude and isolation, which he identifies as qualities important to his wilderness definition, in some remote locations (2542; see also *Necessity of Solitude* below). Nonetheless, he does not find the VCNP to comprise wilderness because it "shows many signs of human use over time" (2539). "[I]t's the curse of historical knowledge. You can't see a tree stump without saying, 'Wait a minute. Somebody's been here!'" (Martin 2540). He names the San Pedro Parks Wilderness as a landscape that better fulfills his definition of a wilderness area.

The VCNP also does not entirely fulfill Dorothy Hoard's (1180) wilderness definition. She tells of seeing the Valle's north rim "honeycombed" with 15-foot-wide logging roads every 150 feet during her first inspection of the area in 2007 (1186). In her opinion, only the East Wall of the Preserve approaches her expectations of wilderness (1271); however, she notes that this locality is not sufficiently large to warrant an "official" wilderness designation (1270). Hoard maintains that if wilderness proponents are ultimately successful in their efforts to register the

VCNP in the National Wilderness Preservation system, this action would "degrade" (1180) the legal definition of wilderness.

Growing up in Los Alamos, Don Usner (3569, 3571) saw the Valles Caldera as a wilderness because he had perceived it as largely untouched because he only knew the tract from a distance. "Now that I've been out there, it's not wilderness at all. It has been so heavily utilized" (3570).

Although it does not fulfill his wilderness criteria, Usner is careful to explain that the VCNP is extremely important for many different reasons. Part of it is because a lot of people depend on the watersheds, but also part of it is symbolic as the "gold standard of what we thought of as wilderness" (3816). He offers the important observation that, his personal feeling aside, the VCNP symbolizes the idea of wilderness, even as the idea of wilderness changes (3620):

> It still symbolizes a place where everybody can just breathe a sigh and feel the open space, and feel like there are places that are special. It renews us in that kind of way. What happens there is of such significance to all kinds of people. [3621]

In talking with all different types of people within the VCNP about their feelings while he was writing a book about the Preserve with William deBuys (deBuys and Usner 2006), Usner found that "there was a universal sense of awe" (3622). "There's a special quality of it. I think it elevates it" (3624). He asserts that the Valles Caldera's value is as a cultural landscape (3645; see also *Wilderness* above).

The Valles Caldera fulfills Greg Kendall's (2414) definition of wilderness because it does not have many buildings, there are not a lot of people on it, no paved roads, etc. He acknowledges, "The place has been used tremendously over the years" (2413) and is not in pristine condition; nevertheless, he values the relative isolation, solitude, and wildness of this landscape. He explains that there is a big difference between the VCNP and the surrounding areas on the SFNF in terms of motorized vehicle access, the number of hunters, and the intensity of grazing (Kendall 2415, 2416).

Gary Morton recalls seeing the Valles Caldera with his wife while it was still in private ownership. They were taken aback by the beauty of the landscape, which was "covered in cattle and elk" (2860).

Morton remembered the Valles Caldera and submitted a proposal to run cattle on the Preserve when the Request for Proposals for the 2008 grazing season was released. Having submitted the winning bid, Morton spent the summer and early fall in the VCNP and got to know the landscape well. Just as most of the other participants, he does not consider the Valles Caldera to represent a wilderness; instead, he states,

> I think it's a good ranch. It's not unspoiled by any means, in fact, it's been abused by those grazing and loggers... but it's a great place, it's a wonderful place. Just the geography of it makes it unique. [3008]

Georgia Strickfaden (3380) recalls that one of the arguments used for making the Valles Caldera a National Preserve was that it is a pristine wilderness. She disagrees with this characterization of "pristine" because the Valles Caldera has seen a lot of grazing and logging and many non-native plant species have also been introduced into this landscape. Nonetheless, she feels that the VCNP still constitutes a wilderness (3380).

Strickfaden (3389) warns that the construction of too many new structures in the Preserve would detract from the wilderness experience that this landscape still offers. She recognizes, however, that people's wilderness perceptions are "a matter of perspective" (3381). To a native of New York City, the Preserve looks very much like wilderness.

Hilario Romero discusses the Baca Location's logging and commercial ranching histories, which, in combination, had "a big impact on the land" (5303). He advocates using contemporary management practices to "turn that around" (5303) and return parts of the VCNP to wilderness. He recommends restricted use, as determined by citizen groups in collaboration with technical experts.

John Hogan, an environmentalist, and Orlando Lucero, a rancher, agree that the Valles Caldera does not fulfill their wilderness criteria:

> I'm not one of those who think that the Preserve is pristine by any stretch of the imagination. Not that it's not beautiful, don't get me wrong, but 'pristine' in a sense of wilderness, 'pristine' in a sense of untouched, no. Maybe some parts of it, yes, but by and large no, not as a whole. [Hogan 5303]

> [The VCNP] is not a wilderness...Too many activities have been on it...Wilderness is almost untouched. That's a true wilderness. Now, they need to find another word besides wilderness—specialized management control. [O. Lucero 5178]

The Valles Caldera, in Robert Dryja's (636) mind, represents a semi-wilderness given the cumulative impacts of human activity over the past two centuries; he maintains that Preserve is not in the "natural state" (637) that existed 200 years ago. Dryja (639) discusses the irony that the VCNP is less of a wilderness than some parts of the surrounding SFNF given the intensity of its past logging history.

Dryja feels that the "Valles Caldera National Preserve is a relatively unique, rather rich ecological zone" (641). He thinks the VCNP should become "the heart" of the Jemez Mountains wilderness, by allowing the forest to recover from past logging operations and be managed with small controlled fires (653).

Although he questions whether the VCNP and its surrounding forests represent examples of wilderness, Richard Ford (821) tells of his love for this landscape. The ecological condition of the environment evidences a large amount of human intervention, but he anticipates that it might be possible to find pockets that could be called wilderness (822).

Despite questioning its wilderness status, Ford (827) values the VCNP because the landscape is beautiful and unique, and he learns something new every time he visits. He adds,

> I enjoy being there. I enjoy fishing and being out there on the river trying to think like a fish, and at the same time not worrying about much else in the world. It's just kind of a nice place to escape. [828]

Lastly, Ford remarks that the VCNP seems like a refuge because there are fewer visitors than in the National Forest lands in many parts of north-central New Mexico (829).

Teralene Foxx believes that people have a misconception about the Valles Caldera: They think it is a pristine area. "It is far, far from pristine" (962). She cites the large-scale commercial cattle and sheep grazing of this landscape, as well as its extensive logging history as the major sources of disturbance.

Despite these qualifications, Foxx (985) views the VCNP as comprising wilderness in the sense that it is peaceful and there is a lack of noise. She thinks that the immenseness of the Valle Grande gives visitors a sense of space and openness (975). "The Valle Grande is a great valley and you cannot experience that valley until you're in the valley, not on the margins" (998). She states that the VCNP's managers "...have the potential of [providing] a wilderness experience and they should preserve that potential" (1073).

Tom Jervis (1636) points out that the VCNP and the neighboring Jemez Mountains have been overly logged and grazed heavily in his remarks about why this landscape neither is pristine nor a wilderness. When visitors look out over the Valle Grande from overlooks along State Road 4, they are so far away that they cannot see the ubiquitous ranch fences that run " all over the place" (1642). He notes further that in this "wilderness," you are probably never out of cell range and your car is parked near-by (Jervis 1640).

In his opinion, the VCNP is a "much more important cultural landscape than a natural landscape" (Jervis 1638; see also *Wilderness* above). Nevertheless, he maintains, "The Valles and the Jemez are wild enough that the elk tolerate the people who are there" (1653). In turn, people view the VCNP's large elk herds with delight and consider the presence of these animals as evidence that the Valles Caldera represents wilderness (Jervis 1659).

Tito Naranjo speaks of the last time he visited the Valles Caldera: "I was distraught because they had devastated the landscape from when I had seen it in earlier years. The roads...took the wilderness sense out of it" (4373). Referring to the disturbances resulting from the Baca Location's industrial timbering during the 1950s and 1960s, Naranjo states, "That place is devastated" (4373).

Tom Ribe describes the Preserve as a landscape that "has been ridden hard" (3062). Rather than representing a place in which land managers can study wilderness, he views the VCNP as a place to study recovery. Nonetheless, Ribe finds the Valles Caldera as

> a very powerful landscape, and a place where a person, if you open yourself up to it in an emotionally open and intellectually open way, you can have quite a connection. [3051]

The east side of the Valles Caldera (i.e., the area below the Pajarito Ski Basin and next to Bandelier) is one of Ribe's favorite places within the Preserve. The mixed conifer forest in this setting is old growth; it was never logged. He describes it as "quiet and wild" (3027). Ribe also values the East Fork area because it has no roads. He goes into this area to find solitude. While there, he does not have to deal with other people.

Ribe recommends that the VCNP's managers should emphasize the wilderness experience that this landscape can provide. Urban population growth is rapid and great. He maintains that "wild" areas, both "for science and retreat" (3118) are going to become increasingly valuable places because of their rarity. The highest and best use, in his opinion, would be to treat the Valles Caldera as a recovering wild area (Ribe 3118).

Landscape (as Seen From Los Alamos)[60]

> *The wild lands of the Jemez Mountains have in many respects become a cultural landscape. Landscape form and function in the Jemez Mountains are not simply inscribed in stone and genome, but increasingly reflect human conceptions about what this landscape should be like that arise from the 'inscapes' of our minds.* Craig Allen (182, reading from Allen [1989:312])

Craig Allen says that he outlined his ideals for the Jemez Mountains and the potential he saw for the "emergence of a harmonious cultural natural landscape" (183) in the final two pages

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[60] The landscape, as seen from the perspective of people living in the Jemez Mountain's traditional and historic communities, is examined in further detail in Chapter 14.

of his dissertation (see Allen 1989:313-313). He continues to believe that if enough people begin to care about this landscape,

> the Jemez Mountains will become known as a special place in northern New Mexico where loggers and recreationists learn to co-exist with Jemez Mountain salamanders and with each other—a landscape that offers hope that our civilization can replace its carpetbagger economics and attitudes with a land ethic and time for us to live as nurturing members of a balanced landscape community. The Jemez Mountains are a good place to explore the creation of such a landscape. [184, reading from Allen 1989:313)]

Dorothy Hoard has developed an intimate relationship with the Valles Caldera and the Jemez Mountains over the past five decades. While she continues to make an annual pilgrimage to Big Sur, which is where she spent her childhood, the Jemez Mountains and VCNP are "close" (1197). Furthermore, their landscapes are the focus of her everyday life in Los Alamos.

Hoard explains her affinity for the Big Sur, Jemez Mountains, and Valles Caldera landscapes as a product of her upbringing: "It's in the genes...I have very a strong sense of place...I have to have a place" (1197).

For Don Usner (3417), the great part of living in Los Alamos was that the Jemez Mountains are right here. Many of the scientists would spend their free time hiking, exploring archaeological ruins, collecting pottery sherds, etc. Since the time of his youth, he has felt that sitting in a ponderosa pine forest is an amazing experience (3515).

His relationship with the Valles Caldera landscape began while he was still a young boy. Usner (3425) reports that his family never had a relationship with Patrick Dunigan and they never obtained formal permission to explore the Baca Location. Just as many other Los Alamos residents,[61] they "kind of...dabbled around the edges, would wander off and have picnics in isolated meadows" (3425).

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[61] Tom Ribe recounts that, as a youth, he trespassed into areas of the Valles Caldera owned by the Dunigan Family. Just as Don Usner, he knew the limits of his intrusions. Ribe recalls

> I can remember going in with the whole family. It seems kind of ironic now because it was basically illegal, but nobody cared... It was just a family affair, trespassing... and it was no big deal. We came to kind of regard the place that way. As long as you were respectful...of the places you frequented, it was okay. [3426]

Usner recalls fondly,

> Part of our life was exploring those mountains, and the Valle Grande... was the ultimate, that was the peak experience of all of those places....When we got to go to the Valle Grande, it was always a very, very special thing. It was regarded as an activity to be remembered. [3424]

Also, on these outings into the Valles Caldera, Usner's father would point out non-native plants to the area and explain how they got there and their impact on the forests' ecology (3423).

Usner continues by contrasting his access to the landscape he got to know as a youth with the same landscape that he is able to enter as an adult: "The idea of the Caldera being private was always in our mind, but we didn't resent it so much then because it wasn't so restricted" (3429). He expresses a sense of loss given that many of the "special places" revered by his family have been rigidly closed off by the VCNP (Usner 3430).

Georgia Strickfaden similarly related that she has a "real emotional involvement" (3178) with the places (e.g., Barranca Mesa [3166] and the ruins of former homesteaders' cabins [3167, 3168) that she explored on horseback while she was in junior and senior high school (3165). The landscape was her home. She expresses her dismay about moving back to Los Alamos after finishing college and marrying only to discover the landscape was segmented by more fences and restrictions on where she could ride (3196).

Dunigan's wranglers who "sometimes smiled and waved at people" or "chased them off" at other times (3026).

John Hogan views the VCNP as "an immensely powerful landscape, and that's something that should not be diluted by the way it's utilized" (1510). He talks about the meaning of people's relationships with their landscapes generally:

> It's about the connection, a personal connection to the landscape which is so much lacking in this day and age, and the generation of personal stories, which is also lacking in this day and age. [1523]

Craig Martin tells that his relationship with the Valles Caldera as landscape is a product of the time that he has spent there. He describes the basis of his empathy for the Valles Caldera landscape:

> To me, [the VCNP] gave me a very close-by opportunity to explore new territory. That's one thing that's always a draw to me. I'll go to a place that I've never seen or experience something that I've seen. That's on a grand scale. But it's also... finding an aspen carving that I never saw is just as exciting as exploring a new valley. Something like that. The importance of the Preserve itself, that's it for me. [2541]

Because they have lacked similar opportunities to experience the Valles Caldera, Martin (2541) reports that other members of his family do not share his passions for this landscape. He thinks that many other Los Alamos residents would be like his family: comparatively cool toward the VCNP because they have not had the opportunity to experience its landscape in depth for themselves.

> I think for Los Alamos in general, a lot of folks would say...,: 'It's a place that we've never been. We never had the chance to go down into the center of the Valle Grande.' Here it is, just so close by. It's so cool to be down there. [Martin 2541]

Martin concludes by suggesting that people want to get to know the landscapes in which they live. Speaking of the VCNP, he states, "It's the opportunity for new places to explore and close-by opportunities for solitude that a lot of people in Los Alamos seek, I believe" (2541). The lack of access to the Valles Caldera for people to experience and build their own landscape

relations is "a tough one for those of us in Los Alamos because it seems such a personal thing" (2541; see also *Advocacy and the Need for Advocates* in Chapter 12).

Necessity of Solitude

> *Feed your soul instead of your belly.* Teralene Foxx (1087)

Art Morrison's (2719) backcountry wilderness experience includes solitude and the ability to hear the wildlife. He expresses dissatisfaction, if not also a sense of loss, that his workaday life in the employment of the USFS has not given him the time in the backcountry areas as he had hoped:

> You sign on with an outfit because you want to work out in the woods, and then in order to make a living, you end up not working in the woods. The only time you get to go out in the woods anymore, to get what you really need that sustains you, is on your own time. [2827]

Morrison (2714) adds that the size of a tract has a lot to do with his perception of wilderness and experience of solitude. When wilderness boundaries are shaped by roads, Morrison finds that his wilderness experience can be ruined by a vehicle driving past.

The Jemez Mountains are especially important to Branden Willman-Kozimor (3800) because she moved here from a very densely populated southern California area. The Jemez Mountains, in comparison, are serene, quiet, and without constant stimulation from human sources. She explains the basis of her connection:

> Being outside, and especially being physical outside doing something like hiking, or running on trails, or skiing, it's just a way for me to feel a part of this place... It's just nice to have a place that's serene. [3801]

John Hogan (1530) sees wild lands as necessary to our well-being, physically, mentally, spiritually, etc. "There is abundant, abundant evidence that people need that sort of thing [i.e., solitude and a connection to the wilderness]" (1526).

Robert Dryja shares that his first visit to the Valles Caldera had a highly emotional impact on him. He believes that being in the backcountry to experience nature and its solitude first-hand is an educational, as well as emotionally valuable, experience (731).

Dryja (713) admits being shocked to find that some children had never been in wilderness even though they lived nearby. He believes it is important to take the kids out to bring about the realization that there is another world out there and there is more than just convenience food and entertainment TV (714). Moreover, some children do not realize what happens in the wilderness. They have a "if I see it, it exists; if I don't, it doesn't exist" mentality (Dryja 718). He shows them a positive, emotional effect of wilderness, and he teaches them to appreciate it (712).

Tom Jervis (1538) feels that his time spent in nature was the most influential part of his childhood. "That experience focused me on the therapeutic role of nature in my life..." (1539). Also, a family friend told him to remember his passion for the mountains to keep him going and motivated to succeed (1565).

Tom Ribe shares that it is difficult for him to express the importance of the Valles and the Jemez Mountains in a purely "rational sense." He finds that there exists an aesthetic and an "[a]lmost a religious, spiritual connection" (305).

He finds it annoying, given his intensely spiritual relationship with the Jemez, that relatively few people have a truly informed understanding of the natural processes of silence and unmarred beauty (3055). He takes satisfaction, and expresses hope, however, in noting that NPS promotes these understandings.

Charles Keller (2011, 2012) got to know the VCNP as a volunteer working to document the birds that bred in the Valles Caldera habitat. During that time, he and his wife could explore the VCNP without supervision (2013). "That was a real gift because there was nobody else there. It was just us and the bears" (2015).

Keller has experienced the Valles Caldera with and without cattle (2016). He maintains, "If you're out for a back country experience, it is just ruined because you can always hear the cattle bawling" (2018).

As noted earlier, Craig Marin (2537) seeks solitude and isolation in his wilderness experiences. He describes the VCNP as a place that has "something special to offer. The feeling that you were up there by yourself and that there was nobody else sharing that 88,000 acres with you" (2524). Given this context, Martin's recollection of a visit to the Valles Caldera in response to a request by VCNP staff for him to assist them in organizing volunteers becomes explicable: "Sharing [the Preserve] with 2,000 people on the weekend really did nothing to make me interested in the place" (2522).

Greg Kendall (2329) has helped organize events held in the VCNP for mountain bike enthusiasts. On these days, he is delighted to share the Preserve with a community of 200 or more cyclists. At other times, however, he wants to experience the Valles Caldera in solitude. Kendall shares his dissatisfaction in having to be part of a hiking group to obtain backcountry access:

> It was very frustrating to go on a hike there. I thought... it's supposed to be you have an experience by yourself. That's how they sell it. You get on the van with a bunch of other people. You're all dropped off at the same time, and we ended up having a hike with all these other people (that we didn't want to have a hike with) because we were all there at the same time. You've got a schedule. You've got to be back at a certain time. It's not like we were able to have solitude. [2428]

Teralene Foxx (988) longs for the ability to seek solitude with the wilderness in the VCNP. She bemoans the fact that the only way to gain entry into the Preserve currently is with a guide and/or as part of group. She wishes that there were more options available that people could do on their own within the VCNP, such as hiking (955). Foxx states,

> Even just to take a walk, a hike out there you have to have somebody that's with you. Even in the National Park Service, they don't make you have somebody that's with you every place you go. They have designated areas, but they don't say you have to have a ranger with you to take a hike. [996].

Nevertheless, Foxx (1005) reports that she was once a participant in a botany tour when an elk herd and bear rushed out of the woods. She was thrilled to be able to see the elk and the bear interact, and it was an experience she will never forget.

Tito Naranjo speaks of the fragility of wilderness places and remarks how their qualities of naturalness and solitude can be spoiled by the carelessness and selfishness of others: "What hurts so much is that people on the Fourth of July... take all of their camp gear... and just leave it there. There's trash piles!" (4424). The plastic tents, blowup mattresses, Coleman lanterns, and plastic bottles left behind by a few, are more than an unwelcome intrusion that detracts from the wilderness experience of others. In Naranjo's eyes, the unthinking discard of these items constitutes a sacrilegious act. "Nothing is sacred anymore... It is regardless of race... There's a lack of grace!" (Naranjo 4424).

CHAPTER 9
THE CHALLENGE OF FINDING COMMON GROUND: MULTIPLE USE IN THE VCNP

> *Literally and figuratively, the Valles Caldera is the heart of the Jemez Mountains and it deserves special treatment in that regard.* John Hogan (1506)

Participants with very different backgrounds and perspectives, including Branden Willman-Kozimor and Dorothy Hoard, who are promote environmental education and outdoor recreation, and Timothy Johnson and Orlando Lucero, who are cattlemen, acknowledge the VCNP's multiple use mandate. Johnson, for example, remarks that wildfire and fire fuels management, logging, cattle and elk all "are needed and all are necessary to good management... All of these can be done together" (1786). Willman-Kozimor (3874), however, feels that the Preserve is not fulfilling this multiple use management objective because of its having overly "tight controls" and "limited access." O. Lucero agrees in principle and states that multiple use is supposed to include "some logging, some ranching, some hunting, and some environmental uses..., but it's not being done that way, in my opinion" (5143), again largely because of too restricting management policies and practices. Hoard is similarly critical of the VCNP for its confining policies, saying, "[T]he government bought the place and immediately closed it" (1132).

Teralene Foxx states, "I do really feel that the idea of what they [VCNP] did is really good, but the implementation has not been very smooth" (994). She indicates subsequently that part of the difficulties that the VCNP has experienced in developing and implementing a coherent multiple use management plan is attributable to the failure by the members of the Trust

to define and communicate to the Valles' stakeholders a clear and consistent vision for the Preserve (1098; see also *Board of Trustees* in Chapter 12).

Some participants (e.g., Charles Keller 2183) feel that the VCNP ideally should be buffered from some of the pushes and pulls that other land management agencies, such as the USFS, experience in consultation with its stakeholders by virtue of the Valles Caldera having been designated a National Preserve. Gary Morton (2959), however, shares the pragmatic observation that although there are relatively few stakeholders who are very vocal about how the VCNP should be managed to support multiple use, those few entities can be very loud. For Morton, therefore, the reality is thus: "To make it work, you're going to have to be a politician, too" (3014).

John Hogan (1429) suggests that the VCNP's challenge to find common ground in defining and enacting multiple use policies is complicated further by the apparent fear on behalf of decision makers that they are going to do something that they will not be able to retract subsequently. In a view shared by many participants, Robert Dryja (710, see also *Board of Trustees* in Chapter 12) feels that the Trust, although responsible for defining coherent policies, needs to empower the VCNP's managers with the authority and ability to continually reassess short-term conditions within the Preserve for managing ranching, logging, recreation, wildlife, etc., to fulfill the Trust's long-term multiple use policies.

As elucidated in the discussion that follows, respondents express a diversity of opinions over what constitutes appropriate multiple use management, with each individual favoring strategies and guidelines that keep with their particular attitudes and preferences. They acknowledge that the VCNP's stewards face a difficult task in trying to reconcile their diverse commentaries (e.g., Charles Keller 2108).

David Lowenthal observes in his eloquent essay, *Not Every Prospect Pleases*, "What makes one landscape appear harmonious, another incongruous, is the entire experience of the viewer" (1971:235). Management policies and guidelines favored by one community might be viewed as harmful by members of another whose relationships with and expectations of the same environmental setting are very different qualitatively. One community's benefit can result in a sense of loss and alienation for another.

Craig Allen discerns that multiple use management conflicts, both perceived and realized, are common among stakeholders throughout the West. He thinks that the VCNP might someday

> be a catalyst to engage in these kinds of conversations...to bringing the Game and Fish [Department], and the livestock raisers, and the environmentalists, and anybody who's interested in that kind of conversation. [177]

Although this potential has existed since the U.S. purchased the Baca Location more than a decade ago, Allen feels that there has been little action by policy makers and managers toward its fulfillment. He suggests that a commitment toward such a goal would justify continuing public support for the Preserve if it opened up the conversation among the various groups (178).

Participants are unanimous in the opinion that the VCNP's many stakeholders must be active collaborators in defining multiple use policy and identifying appropriate guidelines for achieving this management vision. Within this general call for action, John Hogan implicitly underscores the need of policy makers and managers to recognize and respect the value of local knowledge that is based on intimacy of relationship with the Jemez Mountains landscape when he says, "Let that place speak to you. Because it can, and it does" (1511). After all, who better is equipped to hear what the VCNP is saying than those who are fluent in the language of this landscape?

Ranching

> *If you're going to have a grazing program, why not have it with multiple benefits, generate good will?...There's a big unnecessary conflict between ranchers and environmentalists...If you had fewer cows out there—from local ranchers, who actually care about the place, have a relationship with the place—I think it would be much more tolerable by the environmental-minded people.* Don Usner (3667)

What Cattlemen Say

Anthony Armijo (203) recalls that his family, just as other ranching families at the Pueblo of Jemez, ran horses and cattle in the Valles Caldera historically. He remembers the large number of the cattle that the Valles Caldera used to support during the time of its ownership by the Dunigan Family because its pastures were so lush (205). Speaking of his family and his Pueblo alike, he adds, "We had always envisioned...what an opportunity it would be to come and bring back cattle and run our herd here on this beautiful and lush landscape" (206).

Armijo reports that his Pueblo has informed the VCNP that community members would like to "have a grass bank so that we could rest our lands and take our cattle off for the summer months" (249). He explains,

> We did have a good relationship with the staff and it was in our interest to be able to be a more permanent part of the [Valles Caldera's] grazing landscape. Our interest was to be able to rest our lands and make the whole watershed more productive which would benefit not only our cattle but the quality of life for our people. Not only our people, but the whole region. The whole Jemez region would have healthier lands which could support more wildlife, which could cycle water more efficiently. It could have a whole set of other benefits. [250]

Thus far, however, neither Armijo's family members nor his Pueblo have had access to the VCNP as part of the proposed grass bank (215, 249). He adds that for his family, "As far as the...National Forest, it's the same story. That when I came of age, all the grazing permits and rights had already been taken" (207).

Talking specifically about the VCNP's management of its pastures, Armijo (350) notes that is currently considerable conifer encroachment into the grasslands. He feels that it is important that managers take measures to prevent the conifers from taking over the precious grasslands further.

Cattleman Timothy Johnson reports having prepared a previous application for a grazing permit in the Valles Caldera with Orlando Lucero (see below). Their proposal was unsuccessful.

To fully appreciate the significance of Johnson's remarks about the value of the VCNP's pastures to the area's other established cattlemen, it is essential to grasp that ranching is more than just an economic activity to these operators; it is a treasured lifeway. Johnson (1781) feels that the ranching lifeway and the traditional values of his parents and grandparents are more important than income. The level of commitment and work that ranching requires demands the assistance of others, usually other family members, commonly fathers, sons, and brothers.

Johnson has found great personal satisfaction working with his family, and he expresses the hope that he can give his sons this way of life. He views access to the Valles Caldera as a way to fulfill this wish.

Johnson describes the dilemma that ranchers face today: "If you don't have the land, you can't keep the cows" (1780), and he identifies the acquisition of access to new land through purchase or lease as a priority. He expresses the hope that the VCNP would become more available to the area's established ranching families:

> It's important to us today because we are the third generation... The next one is coming up... that's the fourth, that's my boys... They are interested in [ranching, but] you can only run so many cattle. The fourth generation has to expand. [1772]

When asked about what he believes the future holds for livestock operators working in the Valles Caldera, Johnson responds, "What we need to look for is—how is the land being taken care of? I would prefer all cattle, but there's room for all of us, at least for the next 20 years" (1801). He indicates that a mix of cow-calf and stocker operations would be favored by local cattlemen (1785).

Orlando and Fred Lucero descend from a long line of ranchers, including ancestors who ran livestock in the Valles Caldera. O. Lucero reports that while the paternal side of his family ran cattle on the San Diego Land Grant (5027), his maternal grandparents, who were from Cuba, New Mexico, ran sheep in the Baca Location during the time of the Bond Family's ownership of the tract. "The Valles a lot of years back had a lot of sheep" (5025).

O. Lucero (5104) states further that he ran cattle on the VCNP during the first three years that grazing leases, including one year with his father (now deceased), were available; however, he has not run cattle on the Preserve since. He cites the constantly "changing rules" (5110) in the Preserve's management part of the reason that he has not submitted proposals to return to the Valles Caldera with his livestock in recent years. He reports that he has talked with VCNP staff members and a consultant about preparing a proposal for the VCNP livestock program since this time (5123). He has even partnered with Timothy Johnson to prepare a bid for a grazing lease, which was highly rated but ultimately denied (see below).

F. Lucero, in comparison, has never sought access to the Valles Caldera through the VCNP's ranch program. In his mind, it is simply not an attractive business proposition: "There's a bunch of rules... [and] ...so expensive. And I'm not going to profit from that. I'll just stay where I'm at... [I'll] just do what I got" (4899).

He explains further,

> The actual rent to be up there is pretty high... You have absolutely no access to them [the cattle]. They do everything right there whether you like it or not... They give them their vaccinations whether you like it or not. [F. Lucero 4894]

Orlando and Fred Lucero each address the topic of trampled and broken stream banks. O. Lucero feels that elk are just as bad, if not worse, than cattle in causing damages. "Elk will destroy a stream just as bad as a cow will, and there's four-to-one, or five-to-one 1 elk [to cows], easy (5153). Not only are elk more numerous throughout the Preserve, he notes that cattle are in the VCNP for only four months of the year, while the elk are not so limited, and elk congregate along the rivers in the morning.

While O. Lucero contends that the elk are likely responsible for most ("90 percent, easy") of the observed damages, he feels that cattle catch the blame for damages by the elk (5154). Furthermore, ranchers are called out because they are "the first ones on the list" (5155).

F. Lucero provides an example of how elk can actually cause greater environmental damage than cattle: cattle zigzag up a hill slope (4959), while elk tend to go straight up and

down slopes (4960; see also Morton 2919). The meandering cattle paths are less susceptible to erosion during precipitation events that result in runoff.

F. Lucero expresses surprise by the question concerning whether cattle break down stream breaks. While he concedes that it is possible for the cattle in the VCNP to trample some stream banks, he suggests that the damaged areas would be limited to places where the cattle normally go to take water, where "they go in and get out." "They don't do damage all over the place" (4958). "I can't really see them tearing down all the banks "(4961).

F. Lucero (4962) then endorses the idea of segregating cattle and fishermen. Because the cattle use customary places to get water, river access could be managed to minimize the potential for conflict. "Well managed, it can work" (F. Lucero 4962).

O. Lucero shares his disapproval for the time several years previously when the VCNP's managers brought in their own wranglers for managing the herd on a day-to-day basis and bulls for breeding cows. As a cattleman, O. Lucero would want direct access to his herd and have a say in the breeding of his cows, and although he thinks that the bulls introduced by the VCNP were good bulls, they were too high-priced (5190) and required costly boarding on a private ranch eight months of the year (5189).

F. Lucero (4991) says that the VCNP's bulls were probably born of stock from the southern part of the state. He expressed concern that the VCNP ranching program might have introduced the wrong bulls for breeding livestock that will live in the Jemez Valley year-round. He explains,

> Everybody has preferences... Our preference in bulls is Salers... They don't have big heads. Their calves are born small, but grow big. They put on pounds. They're tough. They can withstand the weather; they can withstand drying cold. They don't have to be in the flat area only. They can go graze up in the hills. [4988]

F. Lucero (4989) continues by noting that that Salers cattle are well-suited to the high-altitude, steep slopes of New Mexico. Most other cattle like to graze where it is flat and easy,

but some of the best grass, which is less "washy" than the pasturage growing along streams and might offer more (or at least different) mineral and vitamins, grows on hill slopes (4993).

Salers cattle, F. Lucero (4992) maintains, do not mind going on slopes, unlike Angus and Herefords. He adds that the Salers animals that the Lucero Family ranchers overwinter in the Jemez Valley as part of their multiyear cow-calf operation,

> don't stress anymore. It's a hard living in the wintertime, but they know they'll mosey on over there. That's the way they were brought up... You take another—you go buy a cow and put her over here—she'll die. Or if she makes it, you're going to have... very poor beef. If she has an offspring, it's going to be light. [5000]

F. Lucero states further that Angus cattle are poorly fit for life in mountainous settings, such as those characterizing the San Diego Land Grant or the Mount Taylor areas. Nonetheless, he thinks that Angus would be fine for grazing in the Valles Caldera under existing management guidelines because they are content to graze in the valley bottom pastures and disinclined to range far (F. Lucero 4997).

In O. Lucero's opinion, the decision to hire its own wranglers and purchase expensive bulls that incurred additional boarding did not constitute a sustainable business model (5189). "You've got to make money to spend that kind of money" (5190). The VCNP operation ultimately decided that it was not making enough money to justify these expenses and dispossessed itself of the bulls and terminated the wranglers. His brother, Fred, agrees that some of the VCNP's management decisions did not make much economic sense. He notes that Patrick Dunigan, "a private person... made a good living. Here we are, highly sophisticated amount of people, and we can't even make it a go" (4982).

O. Lucero maintains that the VCNP's ranching staff has wanted to run 2500 head of cattle, but have never received the authorization to fulfill this target. He believes that 2500 animals is a sustainable number, saying,

> Easy, they used to run 10 [thousand] ... Anywhere from 7 to 10 thousand steers. And years back, when the Bonds were there, they would run possibly 20 or 30 thousand sheep. [5117]

O. Lucero (5118) concedes that environmental conditions were different a century ago. There was more rain to support that density of animals. He says that although it is not possible to sustain such high numbers today, 2,500 cattle are reasonable. He adds, "A good 2,500 that will make them some money" (5119).

At the time of his participation in the present study (2011), O. Lucero reports that the VCNP's ranching program had been awarding the grazing lease to cattlemen from outside the local area. These operators brought cattle from lowland deserts to the Jemez Mountains' high-altitude forests. A consequence of bringing lowland country animals into highland habitats has been an outbreak of Brisket Disease,[62] which weakens animals and leaves them susceptible to diseases, such as pneumonia, among the herds run on the Preserve in recent years (5120). O. Lucero believes that while altitude is an underlying factor, the introduction of so many breeds, including, apparently, lines that have a susceptibility to Brisket Disease, is not good (5121).[63]

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[62] Brisket Disease, a.k.a. High Altitude Pulmonary Edema (HAPE), is a costly cattle disease in the Rocky Mountain region. The disease, which usually befalls animals less than one year of age residing at elevations above 5,000 feet, is the result of elevated pulmonary arterial pressures. Although broadly believed to be related to home altitude or ancestry, research has shown it more significantly tied to breed, with natural selection apparently playing a major role in the survival rate of animals at high altitude (Goff 2000).

[63] Morton provides a summary of his experience with Brisket Disease while during the VCNP's 2008 grazing season:

> While 'Brisket Disease' can be a problem at high altitude, and should be a concern. We actually had very little trouble with it. All our Mexican cattle came from the state of Sonora. This was intentional, these cattle typically come from higher altitude environment than the Chihuahuan cattle. All cattle, cows and calves, yearlings of either sex must be watched closely for the early signs of brisket. If caught very early, the cattle can be taken to a lower altitude and many will recover. This is what we did, we had a gentleman down at San Isidro [sic] who took care of these sick cattle. He did a great job... Out of 1960 head, we had 12 cases of brisket, of which 4 died. [Email to Kurt Anschuetz, dated August 6, 2013]

The Lucero Brothers do not think that one-year grazing leases are sufficient. O. Lucero (5180) feels that a rancher needs at least five years to set up a new business. F. Lucero agrees, explaining that one year is too short for an operator to purchase livestock, while a production cow operation requires a five-year commitment (4998). If the lease program should be based on a one-year contract, F. Lucero feels that an owner-operator, as opposed to a contract operator (see below), would need to run steers exclusively (4999). He notes that he is doubtful whether the VCNP program would permit a steer-only operation: "I don't know if that's feasible... For the first place, I don't think that they'd allow it. They could only have mother cows and calves type of thing" (4900).

O. Lucero believes that a rancher requires more than 600 cows and 4 months of grazing time in the Valles to be profitable (5182). In a year like 2011, for example, O. Lucero thought that cattle should have been in place by April 1 (5183) and allowed to graze in place for a full six months (5184). Whereas it is reasonable to expect that an animal will put on at least 200, maybe 300, pounds during the current 4-month season, a 2-month longer grazing season might mean that the animals would easily put on another hundred pounds (5184).

F. Lucero adds, "That's what you're after, the pounds" (4895) and the VCNP's foliage is so great over there that [the cattle] should put on the pounds" (4895). Nevertheless, just as his brother, F. Lucero also feels that it is "always better" (4895) to have a longer grazing season, including starting earlier and ending later. He observes, "Cattle tend to take it easy. They don't want to work hard... unless you push them" (4960), but pushing and moving cattle subject the animals to a great deal of undesirable stress. F. Lucero maintains, "The whole idea for getting good, prime beef is to have a... no stress animal" (5000).

O. Lucero feels that VCNP decision makers have not recognized the potential that local ranchers can make to the ranching program:

> They need to confide with people from around here to see what will work... There's got to be some input from somebody else, and not just anybody—some locals in reality! [5011]

O. Lucero then tells about a time several years back (ca. 2008 or 2009) that he and his partner, Timothy Johnson, prepared a bid for the upcoming grazing season (O. Lucero 5191).

Their proposal was not accepted even though their bid would have brought the VCNP more revenue (5102). OL was hurt by being told that he and his business partner, after have spent their lives involved in their families' ranch operations in the Jemez Mountains region, "did not know how to manage cattle" (5101). The winning bid that year went to Gary Morton (see below).

F. Lucero says that he went to a VCNP meeting to hear about its ranching program and left finding that he was not interested in preparing a proposal to lease the Preserve, concluding "I [didn't] think that it is feasible to make money"(4985) under the conditions described. Yet, he remains optimistic that a grazing program could be profitable for the VCNP and the rancher alike (F. Lucero (4987). He maintains that cattle grazed in the Jemez Mountains all should be prime beef (4996), and if the animals grazing the Valles Caldera's pastures are not trucked great distances, they should be exposed to relatively "low stress" because there is grass all around and an operator has no need to push them (5001). Additionally, F. Lucero feels that if the ranching season was lengthened, cattle coming off the Valles Caldera in the fall should be ready for market (5002).

In response to a question about what the VCNP would need to do to give him reason to consider preparing a grazing proposal, F. Lucero (4986) replied that the VCNP would need to allow multiyear grazing lease contracts and reduce the annual grazing fee, while allowing him to have access to his animals so he could maintain them directly.[64] At the same time, he supports a management policy that keeps the livestock numbers "down," in exchange for placing the cattle "in the right place at the right time" (5007).

Gary Morton calls himself a rancher from the northeastern part of New Mexico, but he relates, "I'm careful where I use that term. The world loves a 'cowboy,' but hates a 'rancher'" (2865). "I don't understand where it came from where people hated cows or the big ranchers"

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[64] According to F. Lucero, the cattleman who submitted the successful grazing lease proposal in 2010 did not have access to his livestock. The VCNP hired its own wranglers, and "They [took] care of everything" (4896, also 4985). In 2008, when a single operator (Gary Morton) held the lease, the rancher not only had access to his cattle throughout the season, he and his wranglers were responsible for overseeing their day-to-day activities (F. Lucero 4897).

(2932). Speaking specifically of many people's attitudes toward ranching on the VCNP, Morton states,

> It's interesting to me that the people, who lobbied for the government to buy that ranch, at that time, said it was the most pristine place in all the world. It's been a ranch for at least 140 years, and they called it still pristine then. And now you put 2,000 head of cattle, as opposed to the 10 or 15 thousand they used to put on it, and those cattle are going to ruin it in a matter of days. [2895]

He concludes that people visiting the VCNP want to enjoy a kind of wilderness experience in which they feel that they are the only ones in the area (Morton 2933). He feels that they view cattle in a negative light for this reason.

Morton (2865) explains that his cattle operation is a little different than what most people think of. He does not own a herd; instead, he runs livestock owned by other people on lands that he leased. He is, therefore, a contract rancher. Morton also offers a highly personal defense of his choice to be a rancher, and, in the process, he identifies his embrace of a pragmatic stewardship ethic: "I believe in a God that created something that's built to renew itself, and it's there to use, not to abuse" (2911).

At the time of his interview (2009), Morton had leased the VCNP the previous season and was currently running cattle on the Mescalero Apache Reservation. His described his ideal business model, which would allow him to pursue his two loves: ranching and painting.

> Out here on the Mescalero Reservation our lease is about seven months. Of course, the Preserve is four months, and hopefully we can turn it [this business] into a year-round thing. Although, it is pretty intense. It's a lot of work... My hope is we can take care of cattle in the normal season, run them....to the month of October...and then I can go home and paint pictures of my experience for the next four or five months, and then go to the next deal. [2863]

Morton's (2903) ranch business operation is based on the pounds gained by the cattle while under his supervision. Every part of the operation is aimed at fattening the cattle up and not allowing them to start dropping weight. "From our standpoint, we want to be able to ship those cattle at the very peak. In the fall, when it starts freezing," the grass loses its nutritional value, and cattle will lose weight just as quickly as they put it on originally (2905). "We try to time it as best we can..." (2904, also 2905).

Meanwhile, there is a thin margin for losses (Morton 2867). Any losses more than two percent of the herd, Morton must reimburse the owner. "We didn't get into this business to get any bedsores" (2940). He reports that of the 1960 head that he ran on the VCNP during the 2008 grazing season, 4 animals died of Brisket Disease, 4 others died on the Preserve, and although the carcasses were located, the cause of their death was determined (email from Gary Morton to Kurt Anschuetz, dated August 6, 2013). Morton continues,

> When the final count was done at shipping we had only one steer not accounted for. This is a great source of pride for me since many folks said we would never come off the Preserve with our count. [Email to Kurt Anschuetz, dated August 6, 2013]

Morton leased the VCNP's grazing rights during 2008.[65] He and two other wranglers tracked 1,960 head of cattle over the Preserve's 80,000 acres (2874).

Morton (2885) admits that when he wrote his proposal for the VCNP grazing lease, he did not know much about the VCNP. A major focus of his discussion addressed the VCNP's request that the lessee manage their cattle as a single herd (2875) and the statement "that the riparian areas are sensitive" (2884). Because he lacked local knowledge and experience at that

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[65] In response to critics who feel that the VCNP lease should be reserved for local ranchers, Morton states,

> I would like to remind them that it was US [sic] taxpayer dollars that bought it for the government. I guess I don't understand the feeling that it should benefit only local residents. [Email message to Kurt Anschuetz, dated August 5, 2013]

time, his proposal consequently was not detailed. "In my proposal I said that we will keep the cattle out of the riparian areas as much as possible" (2885).

Morton (2877) reports that the VCNP's managers did not have a plan with instructions about how they wanted Morton and his wranglers to rotate the herd across the Valles Caldera. Preserve staff eventually provided him with a map of each pasture and a time frame of how many days could be spent in each pasture after studies had been conducted by range scientists (2878). In the meantime, however, Morton (2902) learned that the Dunigan Family had divided the Valles Calderas pastures into sections, with a system of fences that run north-south and east-west. He began rotating the livestock among the pastures only to discover "the way those pastures were laid out, they were designed for a ranch, and they were designed to keep the cattle down there on those rivers (2885).

On the one hand, Morton feels that it is preferable to keep the cattle off the riparian areas because the forage is "washy" (2887). He explains that the grass has no "strength" and is made up of water and "runs right through" (2887) the cattle. Although Morton believes "that the grass that is away from the riparian areas is better for your cattle" (2888), the cattle prefer the riparian habitat grass because it is sweeter (2889)—"It's the candy store" (2910)—and more tender because it is constantly new growth given its abundant water supply (after 2898).

Morton (2882, 2883) reports that cattle take about 10 gallons of water each day on average and need to drink water four or five times a day. These animals, therefore, need access to the riparian areas unless tanks are provided. Because the Preserve's forage is not an issue—and seemingly "drought proof" (Morton 2880)—cattle graze only about two hours a day (2882). They will, however, drink frequently when water is available nearby (2882).

Given the layout and condition of the existing fences and the cattle's preference of riparian grass, Morton recounts that he and his wranglers engaged in a "constant struggle" (2886) to drive the cattle away from the streams and out of the away of the fishermen who purchase permits to fly fish. Morton (2912) acknowledges that there were complaints about the VCNP's ranching program while he held the lease. The biggest grievances come from anglers, who write about bank damages (2894), the water's turbidity (see below), or the nuisance that cattle, which, Morton (2913) concedes, have a curiosity about the fisherman, make of themselves following the

fishermen around. Morton quickly points out, however, that of the 1,910 fishermen on the VCNP during the 2008 grazing season, only 20 people submitted formal complaints to the Preserve.

Morton (2890) reports that he tried talking with fishermen to hear their opinions, but many are so serious that they did not want the distraction. He feels that some of the individuals that he engaged in conversation are simply close minded about cattle. He recalls one instance of talking with a newly arrived fisherman who complained that his "day was ruined" (2914) as soon as he saw the cattle near his beat. Alternatively, he has also met several fishermen who had run cattle on the Preserve when it was owned by the Dunigan Family. These individuals, Morton maintains, have a very different perspective. He also recounts one fisherman who said that if people cannot fish with cattle around, then they should not be in New Mexico (Morton 2891).

Morton understands "that riparian areas are sensitive and can surely be ruined" (2922), but he rejects the claims by some that cattle are necessarily to blame for streambed damages. He asserts that the real culprits are muskrats, which create tunnels along the streambeds that collapse when stepped on (2920). "I would like a description of riparian damage [caused by cattle]" (2922). He similarly discounts claims that the turbidity of the VCNP's waterways is a result of the cattle crossing the streams (2892). "What is contributing to the turbidity of this water in these streams is not cattle at all. It is all those old logging roads, the natural gas pipeline..." (2893).

Morton (2892) thinks that some of the criticism in inevitable because he thinks some people are simply prejudiced against cattle ranching in the Valles Caldera. On the other hand, he questions the VCNP's management policies and practices that concentrate cattle activity in the bottomland pastures, which represent only about one-third of the VCNP's holdings, rather than running cattle throughout the Preserve. "By saying, 'Here's 27,000 acres,' you're putting [cattle] right on top of the fisherman and you're trying to create a conflict" (2927).

Given his experience, Morton (2923) feels that it would be "ideal" if the VCNP would build fences on certain stretches of the riparian areas to keep the cattle away from fishermen, while leaving some areas where they could go in to drink water. He shares an opinion with

several study participants, who are not engaged in ranching activities (see below), when he says, "It all comes down to managing conflict" (2923), a task that is by no means impossible.

Morton shared several other observations and opinions about the VCNP's management of its ranching operations. He points out that when the Bond and Dunigan Families operated the Baca Location as a private ranch, they used the whole property for grazing, not just the valleys (Morton 2926). He states, therefore, "I think it would be good if [the VCNP's managers] considered the whole Preserve" (2938).

Morton allows that the VCNP's requirement that he run his livestock as a single herd simplified his wrangling duties. After all, there is only one place for the cattle to go at a given time—provided the pasture fences are in good repair (but see below)—and there is only one place for the wrangler to manage the livestock (2926). "If you scatter them over the whole Preserve, then you've got to ride the whole Preserve" (2896).

As noted earlier, Morton finds that some of the more significant consequences of the single herd management strategy, in combination with the existing ranch fences and other ranch infrastructure, such as water tank placements, are the pressures that the cattle place on the riparian habitat and the heightened potential for conflict between ranchers and recreationists. Morton (2896) thinks that these tensions could be reduced if the cattle operation was permitted to divide the herds to graze in different pastures, which were also fenced to limit the cattle's access to riparian areas to prevent the cattle from congregating along streams. Such strategies, however, require the maintenance of existing infrastructure and the construction of new fences and tanks.[66]

Lessees, Morton notes, have to rely on the facilities provided by the VCNP. He reports, "There are some places that we did not use [in 2008]—but we could have—because there is no fence" (2938). He identifies the Valle Seco, the San Luis and the Santa Rosa valleys, and, to a certain extent, the Jaramillo Valley as examples of pastures that currently lack appropriate

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[66] Morton (2951) recalls that the Preserve's managers had discussed the possibility of water hole improvement; however, the purpose of these tanks was for use as still-water fisheries, which would be incompatible with ranching activity.

fences. He adds that if the cattle get away from wranglers in these settings, they end up in the Redondo Meadows, on the highway, and into nearby neighborhoods.

Morton (2866) identifies the upkeep of existing boundary fences as another relevant infrastructure issue. He reports that he and his wranglers had to spend "a lot" of time on the SFNF bringing escaped steers back to the leased property that had escaped through holes in the boundary fence (2872).

Based on his many experiences wrangling escaped cattle, Morton flatly disagrees with USFS managers who steadfastly maintain that cattle do not like to go above a certain elevation (2871) and VCNP managers who feel only the valleys produce enough forage suitable for running cattle (after 2925). To the contrary, he finds that cattle will invariably find holes in the fences and go to the very tops of the mountains where they are content to stay and feed, except when they need water. This same work informs Morton's earlier recommendation (2938 [see above]) for the VCNP's managers to consider allowing cattle to graze across the entire Preserve.

Morton questions the process by which the VCNP's managers decide the number of cattle that they will permit for an upcoming grazing season. He states that the Preserve's scientists estimate how many cattle the VCNP can support based on the condition of the grasses in the bottomland pastures at the beginning of each season (2990). If there is plenty of rainfall and the growth of grass surpasses the scientists' projections, the VCNP's managers apparently possess the authority to increase the number of cattle the Preserve can support during the course of the grazing season. Morton claims that such a mid-season modification of the grazing lease is of little real consequence to an operator: "That doesn't work because the season is short anyway. You can't invest in a trucking bill for a month of grazing, or two months of grazing" (2990).

Morton believes that there exists a more appropriate way for the VCNP's managers to determine the number of permitted cattle. Rather than setting the livestock number based on the amount of forage available immediately in the spring, they should also take into account that the grasses will grow throughout the season (2937).

It is important to make clear that Morton (2936) understands—and accepts—the fact that the number of cattle permitted on the VCNP will vary from year to year according to changing environmental conditions. Just as the other ranchers who participated in the present study,

Morton is pragmatic and realistic. While he does not expect the VCNP's managers to set and maintain a constant cattle herd size, he would like a clear understanding of the method and reason that managers use to reduce the permitted number of animal units.

Morton expresses dissatisfaction with how and where the VCNP's scientists monitor grass production. "To my knowledge, there's no science going on as to the benefits of grazing. All that's going on is monitoring, and all they're monitoring is those valleys" (2897).

Morton relates that he requested the opportunity to look at monitoring study data to determine out how the scientists calculated grazing intensity and found that the scientists reported their data in an unclear, even negative, manner (2924). For example, he saw reports stating that cattle consumed "100 percent" of grass production in some areas. Morton maintains that the fact that the report was only referring to the grazing intensity on new growth—not all forage—was not made clear for inexperienced readers, who might construe the report as meaning cattle had completely denuded their pasturage. He also questions the basis of the decision to monitor grass production only in the valley pastures: "Their reason is that no place but the valleys produces enough forage to graze" (2925), a proposition that Morton soundly rejects based on his wrangling experience at the Preserve (see above).

Addressing the issue of the ecological benefits of grazing directly, Morton states, "When the grass isn't being grazed, it grows big and tough, and then nothing will eat it" (2898). He continues:

> If you look at test plots where they've excluded all grazing, and it's not very long before [the range] starts to go the other way. Those grasses begin to separate, there gets to be more distance between the plants, and that sort of thing, and undesirable things start coming up. So grazing is a natural, good thing. [2907]

On another note, Morton (2928) has read the Environmental Assessment (EA) that VCNP prepared for the Preserve's grazing program. He reports that the EA identified no fundamental incompatibility issues between cattle and any of the recreational activities (2950). He was also pleased to note that the document's biggest environmental concern was not grazing; instead, it

was the Preserve's preliminary exploration of the possibility of allowing the development of a resort hotel to create a new source of revenue (Morton 2929).

Morton would like the opportunity to run cattle in the VCNP again; it is clear from the substance and presentation of his remarks that he not only loves the ranching lifeway, he is enamored with the Preserve. After his lease, in which he was permitted to run 2,000 cattle, the VCNP's managers reduced the number of cattle to 700 animals the following year, which would not be a profitable enterprise for his operation (Morton 2935). He states that for him to make a profit with a small herd, he would have to eliminate his two assistant wranglers and do the entire ranch work himself (2939). He expresses doubt that even such a contract would be profitable. At best, his profit would be thin.

Morton (2942) does not feel that a one-year lease worked all that well for either the VCNP or himself. Although he made a profit by keeping his expenses low (2979) and delivering cattle at the end of the season that had fulfilled his contract's weight goals (2993), Morton believes that the program could do better on behalf of all parties involved. For example, he has considered how cattle grazed on the VCNP as organic, high-altitude, range-fed beef potentially could fill a specialty, higher-end niche in the consumer market (2989). Because the Valles Caldera is an ideal environment for adding weight to cattle (2905), he suggests that if cattle were permitted to graze until they were market ready, an operator could be released from some of the contingencies, such as the price of feed corn that conditions the price—and determines the final profit margins—of the mass consumer beef market.

> Something like the grass-fed beef or natural beef or whatever you want to call it,... takes you out of the beef market because now you're dealing with a specialized things and you become the promoter and the meat marketer..., but if you just go by the business standards of the beef business...then it's all based on the price of corn. [Morton 2992]

He adds that if he was going to market organic beef, then he would use a small, independent slaughter house and attempt to setup a partnership with an established retailer, such as Whole Foods, to distribute and sell the meat (2991).

Morton suggests that the grazing lease contract should run for four or five years. He also thinks that the Preserve's cattle operation would make money if the contract allows operators to run herds of at least 2,000 cattle. Morton (2947) believes that this herd size is reasonable and sustainable; in fact, he feels that the VCNP, as a whole, could easily support 5,000 head. Moreover, given the Preserve's size and topography, he feels that he could run 2,000 cattle just on Cerro Redondo where nobody, including fishermen, would ever see the livestock.[67] Morton recognizes, however, "Five thousand will never happen. Not in my wildest dreams" (2948).

Morton also responded to a question asking whether the VCNP's managers should consider prioritizing the use of Preserve's pastures to assist a consortium of local, small-time ranchers during times of drought. He thinks that the idea, although "great in theory" (2981), is not practical over the long run. He contends that the administrative and organizational aspects of allowing a diverse group of local operators to graze cattle on the Valles Caldera has proved extremely burdensome to the Preserve's managers in the past (2982). Part of the problem, he feels, is that most operators who would like to run cattle in the Valles Caldera also want access to the Preserve to tend their animals themselves (2984).

The prospect of a contract operator, such as himself, running a herd for a consortium of local ranchers, is similarly unappealing. Morton (2984) reports that he had considered entering into a partnership with Jemez Pueblo, whose cattlemen currently have about 200 head that they would like to graze in the Valles Caldera (Morton 2984). To obtain the number of permitted animals, however, he would have to set up contracts with other cattlemen unless the Pueblo's operators significantly expanded their holdings. While he has not ruled out the idea completely, Morton indicates that such a business venture would be unattractive if there were many cattlemen for him to interact with.

Based on his experience, Fred Vigil feels that the VCNP possesses the potential to support "lots more cattle" (5751) than it has in recent years. He a self-described cattleman at

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[67] With respect to Morton's earlier comments about the placement and maintenance of the Preserve's ranching infrastructure, his idea to run cattle on Cerro Redondo is dependent on the availability of appropriate fencing and water tanks.

heart,[68] but has had no realistic access to permits on the SFNF for summer pasturage since his father sold the family's established ranching operation in the late 1970s while the younger Vigil was away and his father's advancing age proved an impediment. As such, Vigil would like to see the VCNP make it priority to provide assistance to local ranchers who seek to sustain a family tradition but who similarly lost access to suitable range.

Vigil's motivation, therefore, is more cultural-historical rather than economic, although he admits that he realistically cannot afford the luxury of financially subsidizing such an enterprise based solely on his personal resources. "If I know that I could have at least five or six years of summer grazing for my 30 head of cattle, I think that should be an option" (5758). If the VCNP would make a commitment to him in exchange for his permit fees and the sweat equity (see below) that he would invest during his tenure, he is confident that his small operation would be feasible and make a notable contribution.

Vigil states that he would be willing to pool his animals with other ranchers. He also explains that his contributions to the program would be to "bring in that past knowledge to the present about working the land, working the land as a community, giving the government some ideas about how to best use that property" (5758). Local ranchers, he maintains, can offer much by contributing their knowledge about "keeping the place healthy" (5759).

Vigil believes that the VCNP's manager should value this cultural-historical insight and factor what local cattlemen could add to the Preserve's educational programs even while fulfilling its legislative mandate to sustain a working ranch. He is fine with the idea of using multiple criteria, including fee amounts, for awarding bids; however, he feels that local expertise and commitment to ranching needs to be valued appropriately (Vigil 5759). "A high bidder is not going to come in and give ideas, he just wants to run his cattle and move them out to the feedlots... [I]t's all big money" (5759).[69]

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[68] Vigil states that he has always liked "the essence of cow" (5699).

[69] Vigil is not lobbying for the VCNP's grazing permit to be held exclusively by local ranchers; instead, he supports issuing permits to a mix of local and nonlocal ranchers based on fairness (5760; see also *Entrepreneurial Access* in Chapter 12).

What Others Say

Branden Willman-Kozimor does not support the existing legislative mandate that the VCNP be a working ranch, in part, because of her suspicions that the Preserve might be using cattle ranching as an excuse to limit access to the Valles Caldera by members of the general public for recreation:

> It's funny to think of a 'preserve' as a cattle preserve... If that's the main reason to not let people in because you need to preserve a space for the cows. It's just kind of a weird way to look at a 'preserve.' [3831]

Although she concedes that ranching is part of the Preserve's mission (3810, 3816), Willman-Kozimor is critical of the VCNP's current ranching program after seeing cattle in fragile riparian settings while fly fishing. Based on her prior conversations with VCNP staff, Willman-Kozimor (3808, 3813) believes that grazing contracts stipulate that the ranchers are supposed to keep cattle out of riparian areas. "Maybe they just need more cowboys out there to keep [the cattle] corralled in certain areas where they're grazing" (3812) because "they're really impacting the San Antonio River. In places they're tearing up the embankments" (3810). Willman-Kozimor also expresses annoyance with having a fly fishing experience, for which she paid a permit fee, disrupted by curious cattle (3807, 3819; see also below).

Charles Keller does not believe that cattle ranching within the Preserve is necessarily a bad thing. He maintains that cattle grazing can actually have beneficial effects on the habitat and management of an area (2186, 2189). Blue grama grass, for example, thrives when it is being grazed (Keller 2190). On the other hand, other plant species, such as black grama grass, are not adapted to grazing (2191), and Keller is concerned about ranching practices that allow cattle to graze excessively riparian areas, because their urine can pollute the water (2238). Given his interest in restoring wildfire as an integral part of forest ecology, Keller (2188) warns that if cattle grazing is too intensive in woodland settings, livestock can denude ground cover vegetation to the extent that low-intensity burns cannot propagate to sustain a beneficial fire.

Keller (2114) finds that the cattle issue poses a difficult management problem for the VCNP because its enabling legislation specifically requires the Preserve to operate as a ranch, while most of the people who want access to the Valles Caldera seek a wilderness experience

that explicitly excludes livestock. He believes further that attempts to provide one set of stakeholders with an aesthetic experience while also running cattle is a poorly posed management problem that presents an unnecessarily greater challenge than it needs to be (2115). Rather than casting this situation as an irreconcilable impasse, Keller suggests, "We should repose the problem in some way that is solvable" (2114).

Keller advocates the establishment of three kinds of management tracts within the Preserve: (1) an area reserved for thoughtful cattle ranch management; (2) an area opened to the public without cattle; and (3) a dedicated research area that excludes both cattle and public access (2118). In this land use model, ranching operations and people seeking wilderness experience are segregated from direct interaction. He further recommends that the VCNP's managers develop policies and guidelines whereby cattle operators frequently rotate their cattle from area to area, including upland wooded tracts and riparian settings (2117; see also Teralene Foxx 1066). Keller maintains that such management practices would allow pasturage in wooded upland settings the opportunity to recover between grazing intervals to ensure that ground cover vegetation is not depleted. They would also help protect riparian habitats from the harmful accumulation of animal waste.

Another avid fly fisherman and environmentalist, Craig Martin, expresses a concern that "cattle in riparian zones need to be dealt with in special ways" (2583). He is not totally opposed to ranching within the Preserve, however. Martin (2558) recognizes that careful livestock management can reduce fire fuel loads in the grasslands and possibly save managers the expense of having to apply prescribed burns or mechanical treatments in these settings at frequent intervals. He concludes that livestock grazing "can be one of the [fire fuels] mitigation measures," but adds that neither ranching, nor any of the other available fuels mitigation tools available to managers, are "going to prevent wildfire" (2557).

Dorothy Hoard (1261) has no objection to cattle grazing in the Valles Caldera, but she is critical of the imposition of restrictive policies that drive up operating expenses and make grazing operations unprofitable for cattlemen with small holdings. She would like to see the Preserve's cattle benefit ranchers from northern New Mexico who seem, in her opinion, to be at a disadvantage in the competition for grazing leases (1262).

Don Usner is (3659) is critical of the VCNP grazing program for two reasons. First, he believes that the cattle trampling the stream banks and harming the riparian habitat because livestock are allowed to spend significant time along watercourses. Second, he thinks that the livestock program should be designed and implemented with providing opportunities for local ranchers (3666).

Greg Kendall treasures the Valles Caldera for the recreational opportunities that he has enjoyed there, and he has volunteered his time and energy to assist the Preserve in its restoration efforts. He does not oppose the ranching program; rather, even following the 2008 season in which 2,000 head grazed the VCNP, Kendall (2410) believes that managers, working with a responsible operator,[70] could increase the number of livestock without fear that a larger number of animals would impair its wilderness values or diminish his backcountry experience (after 2413; see also above).

Kendall offers several recommendations for the ranching program. First, he thinks that the VCNP needs to provide a larger number of water tanks, which are set back from the riparian habitat. "There is a lack of water tanks [outside riparian areas] and there is deterioration of the existing water tanks" (2494). Second, he believes that the VCNP should be permitting cattlemen, who, just as Gary Morton, worked their herd on horseback rather than driving All-Terrain Vehicles (ATVs) (2407) and are willing to engage the members of the public to discuss the ranching program and receive their input (2409).

Considering a question about whether the VCNP should have a ranching program, Hilario Romero shares the belief that there needs to be "some permits allowed for local people to graze their stock up there during the summer...and not let that grass go to waste" (5305). Continuing his commentary, he makes clear his opinion that the VCNP should not only be open to area cattlemen, livestock permits should be reserved for local ranchers for the benefit of area

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[70] Kendall considers Gary Morton, who held the VCNP grazing lease in 2008, as a responsible cattleman. At the time of his interview in 2008, Kendall (2406) expressed the hope that Morton would be returning to the Valles Caldera the following year to continue his cattle operation. It is clear from the substance and tone of Kendall's comments that he regards Gary Morton to have been an effective ambassador for the VCNP in its efforts to engage the public and build its constituency.

communities. Romero maintains that follows traditional practice, noting that Luis María Baca historically let area residents into the Valles Caldera's pastures for their livestock (5306). He further calls for educational programs that would assist local ranchers in developing their ranching operations, as well as informing lessees about the traditional knowledge of ranching on the mountain (Romero 5305).

In response to a question about how he would administer the award and review of grazing permits, Romero, who has considerable experience writing grants for community-based educational programs at Northern New Mexico College, advocates use of written proposals that develop a specific plan of operation. He recommends ranchers address the following questions in their proposals:

- "Do you practice the land ethic of your ancestors?,"
- "Do you believe in sustainability?;" and
- "How is your product going to benefit the community?" (5310).

Altogether, Romero calls for a three-year grant cycle (5313). He initially envisions a year-long trial period, followed by a formal audit and two years of interactive review with the VCNP ranch management staff designed to help an operator to improve their performance, if needed.

Louie Hena, whose has relatives who are cattlemen and has assisted family members run livestock, feels that there is a place for cattle. Nonetheless, he expresses concern about the potential adverse effects that cattle can have on streams because of trampling and pollution (4110). He calls for the development of management practices whereby cattle are maintained sustainably in grassy meadows while minimizing their impacts on riparian habitats.

Although he admits that he is not a "a big fan of ranching," Porter Swentzell sees that there exists "a place for holistic ranching" (4663). Nonetheless, he is unsure if the Valles Caldera is appropriate for ranching given its other values; he sees the VCNP as being better suited for wildlife and asks why the VCNP cannot be part of an initiative to reintroduce antelope, bighorn sheep, and predators to the Jemez Mountains (see also below).

Given that ranching in the VCNP presently is a reality, Swentzell emphasizes that ranch managers need to develop appropriate checks and balances to sustain the land, as well as benefit the animals. In this regard, he thinks that "some... of the old ways of ranching—holistic resource management—... can be beneficial" (4664). Swentzell, just as Hilario Romero, calls for the Preserve's ranching operation to include education components that would celebrate and apply useful practices from the past while assisting local ranchers to develop their ranching operations for the future.

Concerning the award of grazing permits, Swentzell (4666) identifies two principal concerns. First, he believes that New Mexicans should receive priority above all others in general, with residents of the surrounding communities receiving first consideration in particular. Second, be believes that cattle operators should be required to demonstrate that their cattle are chemical free, as a part of a broad commitment by the VCNP to support "green" enterprises.

Swentzell specifically recommends the latter criterion to prevent contamination of the watersheds with pharmaceuticals or chemicals contained in highly treated cattle feed, etc. He suggests the possibility of the VCNP adopting a quarantine period as a precaution to ensure that this criterion is being fulfilled. He justifies his recommendation, which admittedly would raise producers' costs, with the observation that organic beef could be viewed as a value-added product (see also Gary Morton's comments above).

Speaking of the ranching, Richard Ford says,

> I see the Caldera as having a mission for multiple use. I have no objection. I'm not such a pure environmentalist that I don't think horses and cattle should be there. I think there is room for both. I think it has been proven many times, managing the cattle, they fit. You don't have to exclude them... [847]

Nonetheless, Ford has concerns about the protection of riparian habitat and his personal experience interacting with permitted livestock on the VCNP. In terms of the safeguarding of riparian habitat, Ford reports that he observed cattle trampling damage to stream banks first-hand while fly fishing during the 2008 grazing season. He states that the cattle had flattened the stream banks in some areas of his assigned fishing run, thereby destroying several prime fishing

spots (842). With regard to his interaction with livestock, Ford relates that the cattleman's horses, which he estimates might have numbered as many as 50 to 70 head (838), made nuisances of themselves the entire day.[71] They were sufficiently curious that they followed him closely. More bothersome still, they then would run through the stream, disturbing the trout that Ford was trying to approach.

Ford recounts speaking with the wranglers who were tending the cattle and was informed that the livestock were in the riparian zone because that was where the VCNP's managers told them to herd (844). Nonetheless, Ford (837) is suspicious that the cattle operator was not completely complying with his lease obligations and the Preserve's managers were not supervising the cattle operations.

Tom Jervis (1669, 1670) understands why local ranchers look toward the Valles Caldera as pasturage for their cattle: they face a basic problem of economics in only being able to raise a very limited number of cows on the sparse vegetation in their grazing leases in the surrounding SFNF. While he maintains, "I don't have a problem with grazing" (1668) as a general principle, Jervis admits that encountering cattle during his recreational activities "deprives me of enjoyment" (1668). His comments, therefore, support the recommendation that the VCNP's managers need to devote greater attention to the segregation of cattle and recreationists voiced explicitly by other participants (e.g., Charles Keller [2118], see above).

Despite his concerns about the management of largely incompatible ranching and recreational activities, Jervis (1672) recognizes that the VCNP's ranching program could offer economic benefits to area ranchers, as well as supporting the Preserve's efforts to enhance its relationships with local communities generally. He notes, however, that the challenge of building better relationships does not fall solely on the Preserve; it is shared by, and among, the residents of local communities. Jervis feels that the VCNP's initial efforts to recruit groups of local ranchers as grazing permittees were hindered by the ranchers themselves. That is, the number of small-time operators needed to pool their livestock to meet the number of animals

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[71] Morton maintains, "At no point did we ever have over 30 horses on the Preserve. I think it was about 20 in reality" (email message to Kurt Anschuetz, dated August 5, 2013).

targeted by the VCNP's managers was not met because the cattlemen would not come to an agreement to cooperate with one another (1671). Jervis characterizes this outcome as "unfortunate" (1672).

Tom Ribe is highly critical of the VCNP's ranching program. He observes that cattle may be readily found on most other federal lands, including wilderness areas (3122). He feels the opportunity of going to a place without cattle is incredibly rare and the experience is special. For these reasons, Ribe believes that "there are higher and better uses for that land" than livestock ranching. Ranching is the "Old Economy" (3113).[72]

He acknowledges that under the standing legislative mandate, ranching is required to be part of the VCNP's current operation. Ribe expresses the opinion, that given this prerequisite, he does not "mind" a small amount of cattle ranching for historical purposes; however, he does not want to see the VCNP contribute to today's ranching "Welfare Economy" (3113). His concern lies in his understanding that the VCNP's expenditures to develop the ranching program are greater than the income generated by grazing leases (after 3143).

Because Ribe (3114) feels that ranching is no longer economically viable in New Mexico and is dependent on governmental subsidies, he would like to find alternatives for people to sustain their livestock operations other than running herds on critical public lands. While he commends the VCNP staff for keeping livestock grazing "pretty much under control" (3115), Ribe thinks that the time has come to think about the role of cattle in the future. He adds that a "working ranch" is not necessarily the same thing as a "cattle ranch" (3115).

The observation that water quantity decreases under cattle grazing because cows destroy the structure of streams heads the list of Ribe's (3125) environmental concerns. He maintains that watercourses should be narrow and deep, but cattle break down banks. As a result, the streams become wider and shallower, warmer, and less oxygenated, and they lose the shelter of overhanging grasses. Other consequences include a greater loss of stream water to evaporation

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[72] According to Ribe (3054), the "Old Economy" is based on resource extraction. In addition to livestock grazing, the "Old Economy" includes logging.

and a depleted fishery habitat. Ribe feels, "The impact of a few people's economic activity on the... environmental quality and the other opportunities if the many is disproportionate" (3114).

Logging

> *Logging, to me, just implies that you've got the biggest machine possible coming in there and taking out the biggest trees because that's what you can sell. The big trees are the ones that serve the forest well...* Craig Martin (2560)

Participants were in general agreement that past logging activity in the Valles Caldera was damaging environmentally. As Teralene Foxx (1024) observes, logging itself is not bad, but it is perceived badly by the public and has a poor overall reputation. Most respondents reasoned that logging likely had a place within the Preserve for ecological, if not also economic, reasons; however, everyone shared calling for close management to protect the forest and its landscape from a new round of abuse.

Branden Willman-Kozimor (3867) thinks that small logging operations could be allowed within the VCNP, provided the operations were well managed. "Maybe some or all of the wood that was removed for the thinning project that needs to happen on the Preserve could be sold" (3869).

"I would hope that in the Vallès Caldera, a management plan might look at some experiments in logging," says Charles Keller (2199). He has mixed feelings about the logging that was done in the Valles Caldera during the 1950s and 1960s (2198). On one hand, he views clear cutting as an "extreme" activity and the logging roads have left a legacy of damaging erosion (2007). He adds, "A fire puts a lot of the minerals right back down on the ground and fertilizes. Logging takes all that out" (2195). On the other hand, he feels that the Valles Caldera's forest is not as dense as it once was and has "ironically" given the VCNP a leg-up on their fire management (2249).

Despite his lasting reservations that loggers are "essentially a conveyor belt taking nutrients away from our land" (2196), Keller (2110) finds that environmentalists are starting to

realize that the loggers and cattlemen are their natural allies rather than their enemies. He concludes that logging studies are needed to provide land managers with fuller understanding about the roles that timber harvesting can play in restoring the health of overgrown mountain forest habitats and facilitating the safe reintroduction of fire into these landscapes.

Craig Martin states,

> logging is something that can be done in a sensible way. I think the last few logging episodes that the Dunigans oversaw [in the Valles Caldera during the 1990s] were reasonably good because you can't tell. I mean, I've never even seen the evidence, you know. Logging done on a small scale with very selective management, in very careful expectations about where equipment can go and how it can be done, is a good thing. [2584, also 2585]

Martin adds that he prefers the idea of managed logging over that of a catastrophic crown fire:

> Logging has characteristics that mimic wildfire, but it also is terribly damaging to the rest of the landscape. I think that's why I have problems with the way [logging's] usually presented. I believe in thinning when it has a purpose, but thinning is mostly small diameter stuff. Not the kind of thing that is commercially viable...I'm just thinking about when you do fuel mitigation and thinning, you usually use equipment that is reasonably sensitive to the landscape. [2559-2560]

Dorothy Hoard (1205) does not think that the broad closure of the SFNF to logging has always been good, insisting that some places in the forest might have been benefited from being logged. She emphasizes that much depends on how the loggers work: "If you cart off all the slash... you're not remineralizing, restoring the soil... [and] ... slash takes a long time to degrade in this dry climate" (1227).

Hoard conveys her doubt that logging is suited to the VCNP today, noting that large ponderosa pine and Douglas fir trees that are of sufficient size to be desirable for logging grow in places, such as the Preserve's East Wall, where timber harvesting is not possible (1263).

Besides, she thinks that the Valles Caldera and the Forest are different and should be managed differently (1208), thereby suggesting that both holdings do not need to be opened for logging.

Gary Morton allows that past logging activity constituted an abuse of the land. "But on the other hand, other than those roads, I don't see that it's hurt it a lot" (3007) over the long term. His statement that it will take another 50 to 70 years before timber in the Valles Caldera is again worth harvesting commercially (2970) conveys his view that logging should not be a major concern for the Preserve's managers at this point in time.

Richard Ford shares, "I'm not an opponent of logging on that family scale for thinning of the forest and for maintaining the traditional way of life culturally that we find up north..." (900). He is opposed to large-scale logging operations, such as clear cutting, that create roads and severely disturb other vegetation, however.

Teralene Foxx offers a similar opinion: "I am not against logging. I think they can log in [the Valles Caldera and] ...help the environment, if they did it in a responsible manner" (1069). In fact, she maintains, "Selective logging may mimic wildfire but not clear-cut logging" (1021). Her definition of responsible includes careful selection of the trees to be cut and left behind, close management to prevent the construction of excessive roads and the instigation of increased erosion (1070).

Tom Ribe (3116) advocates the removal of small and intermediate diameter trees by small-scale commercial enterprises within the Valles Caldera; however, he is adamant that he does not want to see the return of large logging operations. He is also fine with the managed harvesting of firewood as a technique to reduce fire fuel loads in wooded settings prone to burning.

Recreation

> *Right now, it's ridiculous solitude.* Greg Kendall (2425)
>
> *I won't go if I have to be confined and restricted. Don Usner* (3639)
>
> *You can't open the Valles up too much or it will become another Disneyland.* Unidentified students, as recounted by their teacher, Robert Dryja (610)
>
> *If they think 2,000 cows damage it, just turn 2,000 people loose.* Gary Morton (2975)

The preceding four quotes neatly illustrate attitudes commonly shared among participants concerning the recreational management of the Valles Caldera. First, people seek greater access to the VCNP for its solitude, if not also, its wilderness experience. Second, they want some of this increased access to give visitors the opportunity to enjoy an intimate, highly personal relationship with this landscape. Lastly, they are keenly aware that access and use of the Valles Caldera for recreation requires considered management to sustain the qualities that people value so highly.

General Views and Recommendations Concerning Access

Teralene Foxx (993) has always coveted and hoped to explore the Valles Caldera. She thinks that current opportunities for backcountry experiences are too few and too exclusive. In her opinion, visitors are unable to experience the VCNP in their own terms: "There is a difference between seeing something and experiencing something—you take it into your soul and it changes you..." (1000). She calls for more opportunities for members of the general public (who are not fishermen [after Foxx 1003; see below]) to visit the Valles Caldera and experience various aspects of its landscape and the solitude these places offer without direct supervision (1078).

Robert Dryja (646) feels as though the VCNP has "built the Berlin Wall around it" to keep everyone out. Although he says that the present management approach "isn't realistic," he readily conceded that an "everything goes" approach also is inappropriate (646). But his 4th- and 5th- grade students readily comprehend,

> If you close the Valle Grande totally to the public, then nobody will know about it. If nobody knows about it, then nobody is going to care about it. [609; see also further discussion in *Advocacy and the Need for Advocates* in Chapter 12]

As a general proposition, Fred Lucero (4940, 4946) believes that if the VCNP provided more opportunities for recreational access, it would take some pressure off the Jemez Valley by campers. As considered further in Chapter 17, citizens of the Jemez Valley are critical of the management of the Jemez National Recreation Area, which is inundated with visitors from communities all around the mountain, while demands for law enforcement and public safety fall primarily on local residents.

The VCNP's managers, however, face a tremendous challenge of their own. Art Morrison (2784) astutely observes that given the fragile nature of the Valles Caldera ecosystem, you couldn't allow as many people in to bike and fish, and the like, because they could soon "wreck" what makes the Valles Caldera special.

Greg Kendall feels that access for recreational activities could be expanded: "They haven't even scratched the surface, in my opinion, of that place" (2424).

> If it was up to me, if I was the boss of the place, I would want more hiking. I would want developed hiking trails in the place. I think I would pave that middle road...and I would develop some picnic areas along there. I would like to see some mountain bike trails developed...there's some unbelievably neat stuff in that place...I wouldn't want any off-road vehicles at all. I don't think that's appropriate. I wouldn't want to see any snowmobiles...This place is a special place. It's a bowl, and sounds echo in this place. [2417]

Kendall continues,

> I don't see a problem with some impact in certain places that are limited. I don't see a problem with building a picnic area and having an intensive impact in that area. [2420]

He adds, however, "I think my concept of solitude is different from the Valles concept" (2423). Kendall (2419) suggests that the VCNP's managers could cycle people through different staging areas to prevent dense concentrations of visitors from building up in particular settings, thereby reducing the physical and visual impacts of their presence.

Kendall calls for VCNP's managers to expedite providing access to the section of the proposed Rim Trail overlooking Los Alamos. He states that Los Alamos residents are frustrated with the VCNP, in part, because they cannot go to the top of the Jemez Mountains to look at their community (2515). "Would you call that a good neighbor?" (2516; see also *Advocacy and the Need for Advocates* in Chapter 12).

Branden Willman-Kozimor, who has repeatedly hiked and run the VCNP's short perimeter trails accessible from State Road 4 but has never participated in any of the Preserve's guided hikes (3811), considers the access issue in two ways: (1) the number of people allowed into particular portions of the VCNP at any point of time; and (2) the areas to which people have access. Willman-Kozimor gives her experience of the Preserve's Hidden Valley for the first time during an educational program as an example. "I would love to see it more accessible to the public" (3824). Even though the VCNP's managers have restricted access, she states, "I guess it would be nice if they could open it [Hidden Valley], even if it's to a guided hike (3829). .

Willman-Kozimor believes that the VCNP would still be beautiful if larger groups of people have access to a locality at the same time, but she remarks that an increase in group size would reduce her wilderness experience in remote background settings (3826). She also voices concern about increased quantities of trash that accompany increased visitor use and damages to trees should camping access also be permitted:

> Maybe it is education, but I notice at all the trailheads where I see the trash it always says pack out what you bring in. People just don't respect what we have here... [3872]

Willman-Kozimor (3827) recommends the adoption of management approaches that spread out the number of people allowed simultaneously into sensitive locations to lessen their collective impact at any one time, but she is unable to envision what might be a sustainable level of backcountry access overall. She also acknowledges that the VCNP's managers would face difficult challenges to hire sufficient staff to administer backcountry access and monitor the cumulative impact of visitation closely.

Tito Naranjo shares sentiments with Willman-Kozimor. He notes that people historically have always come in and out without destroying the Valles Caldera (4418), but he is perplexed by the general "lack of grace" (4424, see above) whereby people today seem to spoil that which they treasure with trash. When asked about what he would suggest to the VCNP's managers about how to provide greater public access, Navajo initially is at a loss to offer specific recommendations: "I don't know, except people have lost the idea of sacred places. How you teach people that a place is sacred?" (4427).[73] He subsequently calls for people to be allowed into the Valles Caldera, just as they are allowed to enter designated wilderness areas (4423). He also advocates programs that link access into backcountry and wilderness areas as part of a management programs to clean watersheds (4434). Naranjo believes that such a program would work in the Valles Caldera because many people want access to the Preserve's backcountry and has existing road network, which would enable work parties to areas requiring treatment.[74]

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[73] Naranjo (4434) feels that in the Anglo-American mindset of linear time, everything is profane. For the members of Santa Clara Pueblo, in comparison, language traditionally taught them that spirituality and sacredness was present in everything throughout their world and that they needed to act accordingly in their everyday activities. Drawing on his training and experience as an anthropologist, Richard Ford provides cultural insight to depth of the challenge that the VCNP's managers face in trying to educate many of their visitors about the appropriate and respectful disposal of trash: "It's their way of domesticating the wilderness. If you leave your trash, you've domesticated it" (833).

[74] Naranjo's call for backcountry access in exchange for service contributions foreshadows discussion developed further in Chapter 17. Several participants, including Dorothy Hoard

Don Usner lists the time window defined for visitor access as another kind of management restriction. Speaking as a photographer, Usner would like to see visitor hours be expanded to include earlier morning and early evening hours:

> If you drive out to the trailhead, and get to the trailhead at 9 or 10 o'clock, the day is blazing; it's too warm. It's terrible for taking pictures. All the wildlife is hidden, and you walk around a logging trail on a mountain that's been cut open...Then you get back in the van and drive out just as the light's getting beautiful, just as the wildlife's starting to come out of the trees...That place has such power to inspire and move, but it's not going to happen on a logging road. [3636]

Usner (3635) does not advocate uncontrolled access, but he would like the process by which people are able to enter and use the VCNP recreationally to be more permissive. He recalls a conversation with a friend who remarked, "There's 2,000 cows tramping all over the place, and they won't let 10 hikers walk about. What impact am I going to have that compares to that level of impact?" (3660).

Usner also finds that the access, which is allowed by the VCNP's managers, is too structured (3629). The present system "completely kills the viewing of the place, which is one of freedom" (3630).

> I can't go there and enjoy it the way I want to... I like to be there before the sun rises. I like to be watching the wildlife at twilight. [Usner 3633]

Because there is no opportunity for spontaneity, Usner (3634, 3637) feels that he loses the potential for discovery. His ideal view of access is where he would be able to go into the

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(1135, 1186), Greg Kendall (2323, 2344, 2360), Craig Martin (2541) and Don Usner (3661), talked about the joy they experienced during their opportunities to explore the Valles Caldera's remote settings while working on behalf of the VCNP. These individuals all admit that they used their participation in activities on the behalf of the Preserve as a kind of sweat equity to obtain access to settings, which they would not likely have seen under other circumstances because of the severity of standing access restrictions.

preserve and explore the parts that interest him, to be able to sit and observe for hours and take in the surroundings, and watch the day go by (Usner 3638).

Usner thinks that the development of the proposed Rim Trail, which would give members of the hiking community more flexible access to the Preserve's perimeter via neighboring public lands, would address some of these concerns. He also shares his belief that this trail would not create significant management problem for VCNP staff (3648).

Besides addressing a need commonly shared among the public, Usner believes that the expansion of recreational access could also create employment opportunities for the area residents, while simultaneously helping the Preserve in the day-to-day management of visitors.

Usner reports that the VCNP's managers have been telling him for years that they want to allow private tour guides to bring people to the Preserve and serve as the public's primary resources for their transportation, supervision, and information (3664). This objective, however, remains unfulfilled. Usner (3652) suggests that the VCNP should begin developing relationships with private businesses, as well as develop the necessary guidelines for conducting such commercial enterprises, to fill needs in ways that could benefit the Preserve financially and operationally, as well as core of its public constituency.

As a tour operator, Georgia Strickfaden shares Usner's opinion that the VCNP should reach out more to area businesses to help it provide controlled access for recreational users who neither want nor expect highly individualized wilderness experiences. She points out that the VCNP already has programs, such as wagon and sleigh rides, run by contractors who are trained by the VCNP's staff to comply with the Preserve's management needs (3251).

The issue for Strickfaden (and some of her clients) is that current tour operations focus on the Valle Grande and the major nearby trailheads. Strickfaden (3261) advocates an expansion of the program to included guided backcountry access, so she could give people a fuller sense of the

Preserve's size, beauty and diversity. [75] She maintains that tour guides need to be trained on history, geology, care of the land, proper procedures, rules, safety, etc. (3252).

Strickfaden (3246) explains that many members of the general public desire an overview of the area *and* an opportunity to explore particular backcountry areas up close, even if only briefly and in the accompaniment of others. She suggests that hiking and fishing tours could provide good experiences for visitors seeking a backcountry introduction to the Valles Caldera (3245, 3247).

Richard Ford states,

> I would like to see more access to the Valles for more people, and whether they should be allowed to drive around on their own and not go in the vans, you know, that's a management decision. The roads are not built to have cars just driving here and there. [853, also see 856]

He continues, "I think they did a good job this year opening up so many more new tours to people. I really like that, and people I've talked to... loved it" (854).

Tom Jervis (1681) believes that most people who want access to the VCNP also want to know that the Preserve is protected. He thinks further that the majority of the public is satisfied to see the wilderness at a distance (1682) and the VCNP can fulfill the important objective of showing the public this natural ecosystem.

Jervis maintains, "Ninety-nine percent of the visitors see one percent of the [Preserve], and in most places the impact is huge" (1675). Given this correlation between the intensity of visitation and the severity of disturbance, he recommends that managers "concentrate the public's impact in relatively few places" (1676) to minimize the effect of visitation across the Preserve as a whole.

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[75] At the time of her interview (2008), Strickfaden was running advertisements to run a shuttle to the Preserve, but that is all she could do because she did not have permits to guide people into the VCNP's interior valleys (3259). She expresses frustration that she cannot show any more than what someone can see "by looking up the Preserve online" (3399). Strickfaden's comments on this matter are examined further in *Entrepreneurial Access* in Chapter 12.

Jervis considers most people's satisfaction of seeing the VCNP from a distance in combination with management's need to limit disturbances to the environment. He concludes that the VCNP's managers could stage public access on different levels to satisfy the public while also maintaining the integrity of the wilderness. Jervis then suggests that staged access can be accomplished by making access to sensitive areas of the Preserve such "that those publics who go there are going to be small enough that it's not a big issue" (1677).

Porter Swentzell follows Jervis. He does not feel that every area in the Preserve has to be made equally accessible to all (4658). Instead, he favors a system of staged access, with increasing restrictions on backcountry areas.

Branden Willman-Kozimor raises a final issue about access that relates to perception and public relations. She wonders if the severe access restrictions imposed by the VCNP managers is due to issues related to ongoing research (3825). She wonders if the VCNP is afraid of allowing too many people into the Preserve to safeguard particular studies. As Charles Keller notes, however, there is only a "limited amount of time to figure out a non-invasive, or only partially, invasive way to let the public explore this place" (2127). As examined further in Chapter 10, area ranchers share their frustrations above the pace of studies, which seem place key ranchland management decisions on indefinite hold (e.g., Fred Lucero 4981; Orlando Lucero 5208).

Views and Recommendations Concerning the Management of Specific Activities

Hiking

Charles Keller (2124) believes that it is "absolutely essential" for the VCNP to open up some areas where the public can explore by themselves on foot. When people see backcountry areas on guided tours, they cannot get out of the busses to experience the Preserve up close (2122).

Keller is joined in this opinion by other participants. For example, Don Usner (3632) feels that people should be able to go walk and come out when they want to, but not necessarily to camp. Robert Dryja (720) thinks people should be allowed to hike from the Valle Grande entry point. Georgia Strickfaden (3394) would like to see greater opportunities for individuals to

go on day-trips, as well as a program for backpackers complete with designated drop-off and pick-up points.

Many participants support the Rim Trail proposal championed by Dorothy Hoard (1988), who reports that is idea dates back to the time of the Baca Location's ownership by the Dunigan Family between the 1960s and 1980s. Hoard describes the plan as depending on entry from adjacent SFNF lands to give hikers opportunities to enjoy scenic overlooks of the Preserve's valleys:

> Put a hole in the fence so people can walk on one of those logging roads and see the view... That's all over 10,000 feet. That's where the views are. You look right down on the Valles. You can see them all. [1274]

Hoard (1187) adds that she has walked all but 3 of the proposed Rim Trail corridor's more than 85-mile length while helping to plan its route. She reports that the trail incorporates existing firebreaks (1139) and old logging roads, which have not been driven on in years ("Very nice to walk on") and were covered with a rich blanket of dandelions ("Swaths of absolute gold!") (1187).[76]

Hoard (1273) contends that a Rim Trail would fulfill a public need because she feels that the VCNP's two existing free trails, which are 1.5 miles long, are inadequate for many hiking enthusiasts. She insists further that the Rim Trail be made available to hikers at no cost (1273, 1274).[77]

John Hogan (1503) finds the Rim Trail proposal highly appealing. It would concentrate the hikers along a relatively restricted corridor so they would not be dispersed widely throughout the Preserve's backcountry landscape, even while providing people opportunities for intimate wilderness experiences (1504).

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[76] Importantly, too, the Rim Trail avoids Santa Clara Pueblo reservation lands (Greg Kendall 2510).

[77] Hoard (1273) finds a $30.00 fee to hike logging roads inside the Valles Caldera's interior is expensive.

Although they endorse the Rim Trail proposal, Tom Ribe and Richard Ford raise several practical concerns about its administration and oversight. Ribe (3065) recognizes the need for the VCNP to provide law enforcement to ensure public safety. Ford (866, 867) wonders how the VCNP would administer the program, noting that there are costs associated with posting rangers and law enforcement personnel to monitor the public's activities on a daily basis and evacuating people should they find themselves in an emergency situation. Besides questions relating to knowing where and when hikers intend to enter and leave the Rim Trail, Ford (866) thinks that a self-serve registration and payment system, such as is commonly found at recreational areas administered by the other federal and state agencies in the region, might not be sufficient given the trail's length and the remote locations of entry points on the SFNF.

Participants do not view the concerns raised by Ribe and Ford as being insurmountable. As Ribe (3065) himself, Chris Judson (1988), and Porter Swentzell (4658) point out, the VCNP could follow the model that Bandelier already employs for managing access into its backcountry areas from SFNF lands (see also Chapter 11). Robert Dryja (729) adds that network of old logging that crisscross the Valles Caldera provide safety corridors to get people off the trails if they experience some kind of trouble and require rescue.

Fred Vigil introduces a cultural-historical perspective into the Rim Trail discussion. In addition to its recreational values, he supports the idea of the Rim Trail because it would celebrate the history of the Hi Line Trail (5768). The Hi Line Trail, which Vigil walked while he was a young man, crossed *El Bordo* (translation: "The Rim" or "The Ridge"), crossed the north margin of the Baca Location in providing a vital corridor between the Espanola Valley and Cuba on the east and west flanks of the Jemez Mountains, respectively.

Fishing

Art Morrison (2686), Branden Willman-Kozimor (3722), John Hogan (1517), Richard Ford (849), Louie Hena (4116), Fred Lucero (4957), Tito Naranjo (4370), and Fred Vigil (5665) mention having fished in the Valles Caldera. Morrison, Willman-Kozimor, Hogan, Ford, and F. Lucero have fished the Preserve's streams only since the tract's purchase by the U.S.; Hena, Naranjo, and Vigil all fished in the Baca Location while it was held in private hands.

Vigil (5754) remembers sneaking into the Baca Location as a youth with his father during one of their trips into the mountains to tend their herd (see also *Ranching* in Chapter 13) through the Rito del Indio with fondness. They fished for trout using a simple hook and line. The boy and his father would catch 8 to 10 fish for their dinner, while they camped overnight. Vigil (5767) also recalls assisting the wife of another permittee to collect grasshoppers that she would then use in fishing the Valles Caldera's waters while her husband tended to his ranching chores the following day.

Most of these individuals share their remembrances of their experiences and views about the Preserve's fly fishing program. John Hogan's characterization that it was an "amazing, unforgettable experience" (1517) is representative. Although they do not specifically identify themselves as having fished in the Valles Caldera, several other participants offer their opinions on this activity.

Branden Willman-Kozimor (3807) tells of purchasing a permit to fly fishing in the San Antonio Valley. She describes the experience as "wonderful" because, having exclusive fishing access to a mile of the river, she did not see anyone else except her husband. She reports, however, that there were "at least one hundred" (3814) cattle around them, and the livestock would follow her, generally making nuisances of themselves the whole time by interfering with her casts and bringing horseflies.

Willman-Kozimor (3810, 3816) acknowledges that the Preserve historically is a working ranch and the VCNP's legislative mandate identifies ranching as part of its mission. As such, she accepts the presence of cattle and adds that she would not mind at all seeing the cows in the distance. That is, Willman-Kozimor does not feel as though the cattle would detract from her experience, as long as they were segregated from her assigned run. "I think people won't come back and pay the money to fish there if that's going to be their experience... You get bit by horseflies all day" (3815).

Gary Morton (2917) reports that the Request for Proposal for the 2010 grazing season included plans to make "runs" within the Valles Caldera. Between this change and several modifications to the fly fishing program itself, Morton expresses confidence that the VCNP's managers had devised a way to segregate fisherman and cattle. Nonetheless, he expresses doubt

that some fly fishermen will find these changes sufficient, noting that some individuals expect to be in what *they* consider a pristine wilderness area, so their seeing any signs of cattle "ruins" that experience for them (2881, 2915).

Richard Ford states, "The fishing experience in the Caldera is unique. There are so many fish, and they are so challenging... It makes you a better fisherman..." (849). He reports, "There are some beats that every time I go, I probably get 40 fish. Other beats I go, I might only get 10 fish" (860).

Ford explains that the brown trout in the Valles Caldera are not stocked. Instead, because they were born and raised in this natural stream ecosystem and have learned from their prior experiences with fishermen who adhere to a catch-and release ethic,[78] the fish are smarter (850).

Ford likes the VCNP's management framework that closely regulates the number of fishermen and assigns each permittee a mile-long run along a stream bank, thereby providing every individual the opportunity to enjoy solitude while they fish[79]. Providing a comparison, Ford (852) observes that although the San Juan River Quality Water has larger fish than the Valles Caldera, it is so crowded and full of boats that it greatly detracts from his experience.

The Valles Caldera allows fly fishermen five hours on a stream after riding out to the assigned beat from the staging area. Ford concludes, "It's well worth it" (859).

Ford identifies several areas in which improvements to the fly fishing program are warranted. Being a fairly frequent visitor to the VCNP to fish its waters, Ford has repeatedly had problems with the Preserve's lottery system (864).[80] He would like to see the Preserve increase the number of days allowed each week (856) and have flexibility in the scheduling of fishing

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[78] Ford states, "Even though you're allowed now to take five fish home, I don't know anybody who took even one fish home. They were all catching and releasing" (851)

[79] Chris Judson comments on the VCNP's attempt to emphasize the quality of solitude in its fly fishing program by assigning each angler a mile-long beat of river: "It's an interesting approach and an interesting objective" (1972).

[80] Two years after Ford's 2008 interview, the VCNP's managers did away with the problematic fishing lottery in favor of a reservation system (Gary Morton 2917).

hours as the season, which lasts from May to September (862), progresses and the sun rises later in the morning. Ford recalls that at the end of one fishing season, the number of fishermen declined dramatically:

> It was the first time I was ever out there that every beat didn't have somebody on it...and part of it was they changed the timing. You had to get there at 6 o'clock in the morning while it was pitch dark... [858]

He also recounts a time during the 2008 fishing season that he was unable fish three quarters of his assigned beat because of nuisance posed by cattle that congregated in and around the stream where he was fishing. "I feel that the fishermen and the cattle can be there, but they don't have to be there together. That's the problem" (Ford 848). He also expresses annoyance with the fact that the wives and girlfriends of some of the wranglers would go out and fish on the same river beat as permitted sportsmen, despite not having paid the permit fee (839).

Art Morrison tells of having an unsatisfactory experience: "I paid $25 and fished once. I caught fish but the reach we drew came straight out of a spring pipe! Not a quality fishing experience" (letter to Kurt Anschuetz, dated August 16, 2013, punctuation in original).

Teralene Foxx reveals feeling envious of the fishermen. She notes that the fishermen are allowed to go out and fish by themselves and experience the Valles Caldera intimately for a large part of a day at a time (1002). She observes further that the VCNP's fishing program has been successful financially, and she attributes a good measure of this to the fact that fishermen are allowed to experience the quality of solitude within parts of the Preserve not often accessible to other members of the general public (1003).

Fred Lucero (4956) reports that fish populations in the Jemez Valley downriver of the Valles Caldera have been reduced despite good efforts by the New Mexico Department of Game and Fish (NMDGF) to keep streams stocked. He sees the Valles Caldera as being an important resource in relieving some of the fishing pressure downstream.

Cross-Country Skiing

Art Morrison states,

> I was the first one to cross country ski on the [P]reserve when the program was started. It was a good experience because no one else was there except me and my partner. [Letter to Kurt Anschuetz, dated August 16, 2013]

While Hogan finds that the experience of cross-country skiing in the VCNP is magical overall (1516), he finds it is especially remarkable when the Preserve's managers open the trails for nighttime skiing under a full moon (1925). He attributes the sense of solitude as a major factor contributing to the quality of his experience.

Branden Willman-Kozimor has skied the Valles Caldera several times. "It's a big place for the small amount of people who actually utilize it [during the winter], so it's pretty quiet" (3802). She also notes that the VCNP's staff use snowmobiles to create trails for skiers to follow, "you can cut through the powder" (3802), if one wants to. Willman-Kozimor adds that a skier does not go with a group, saying that there is a lot of freedom to experience the Valle Grande during these occasions (3805).

Mountain Biking

One participant, Greg Kendall, talked about biking in the VCNP. His association with the VCNP began when he got involved in a collaborative effort between a Los Alamos mountain bike club, the Tough Riders, and VCNP staff to organize a public event in 2004.

> When I moved here, I knew I wanted to get involved somehow with the Valles Caldera. I had heard about this [mountain bike] activity, so I volunteered and helped out to do the first big mountain biking event... It was all driven with the volunteers. [2315]

Kendall (2316) assisted with publicity, including the distribution of flyers across large areas of northern New Mexico, obtaining supplies, installing mileage markers, and setting up aid stations. He talks how the Tough Riders worked with the VCNP's staff and cultural historical organizations, which were concerned that the mountain bikers would remove archaeological

artifacts, to determine the responsible and safe bike routes (2319). They incorporated old logging roads into their plans (2320).

Kendall (2317) reports that 400 people attended the event over the scheduled weekend. Additionally, the event was also a great success financially (2321).

Kendall co-directed the next mountain bike event held the following year (2005). He was in charge of publicity and mapping out the route.

> One of the reasons I wanted to volunteer was that I knew it was very difficult to get in up there to do stuff, and so I realized that the only way you were really going to get to have a good experience up there—where you weren't shoved in a van and put on a clock—was if you volunteered for stuff. So that was one of the reasons I got involved in volunteering because I knew I'd get to go out there. And I did, it worked. I got to drive my own car around wherever I wanted, basically. [2323]

Having built rapport with the VCNP's managers the previous year, staff was open to the idea of allowing the individual mountain bikers to choose their own routes during their rides (Kendall 2328). Kendall and the other Tough Rider organizers supplied each participant with maps showing their choice of roads. None of the participants became lost or harmed (2334). As a group, they expressed satisfaction with their experience of choosing their route through the Valles Caldera (Kendall 2331).

Having concluded a second successful mountain bike event, Kendall and his group looked forward to the following year. He expresses disappointment that the VCNP's managers went back to enforcing a single route system, took over the direct supervision of the event from the Tough Riders, and closed access to some settings, such as Obsidian Valley, out of renewed concerns for the protection of cultural resources (Kendall 2335, 2341).

He is frustrated that a promising event, which generated good will among the local community of mountain bikers, and productive collaborative relationships, based on trust and respect, unraveled over the span of a winter without clear explanation. Kendall (2337) does not believe that the VCNP would ever again allow an outside group to run a mountain bike event

again. In fact, he feels that the VCNP has made it more difficult and restrictive to obtain access now than it was when he first started interacting with the Preserve in 2004 (2338).

Craig Martin offers some sage advice concerning the topic of mountain biking. Managers need to exercise care to minimize the potential for conflict between hikers and mountain bikers.

> The beauty of mountain biking on that place is [that] it's so big it really calls for grand tours of 20 miles. I think you could have a couple of loops open every day for bikers that would not impact the hikers at all. Or the fisherman. [2589]

Camping

Branden Willman-Kozimor (3860) believes that it is important for the VCNP's managers to allow camping in designated areas. She thinks that would attract many more visitors to the Preserve, thereby building a supportive constituency. Even though she personally prefers backpacking with a tent, Willman-Kozimor (3861) recognizes that others prefer—or, in the case of people with disabilities (3863), require—motorized camping. She allows that VCNP should address the needs of this constituency by providing recreational vehicle (RV) facilities, just as much as she would like to see the Preserve's managers consider the needs of the backpacking community. She suggests the development of old well pad sites, such as those in the Redondo Creek area, for RV camping. .

Bill Armstrong issues the Preserve's managers a warning about not alienating the motorized camper community by too closely emulating the NPS:

> The Parks have instituted policies that aren't particularly visitor friendly... Today's campers and those who use the outdoors aren't hikers and backpackers... They like their Winnebagos; they like their entertainment in the evenings.... [560]

He reasons that if the VCNP follows the NPS and discourages RV campers, they will do so at the risk of a potentially supportive constituency.

Dorothy Hoard (1275) thinks that the VCNP could reasonably develop for-fee campgrounds. She recommends that the VCNP control access and use intensity through a reservation system, and allow campers to hike near campgrounds. Rather than setting its sights on a profit-making enterprise, Hoard feels that the VCNPs mangers would be better served to develop a self-sustaining program.

Tom Jervis (1678) recommends that the VCNP should develop a visitor center off the main highway and a destination RV campground in a discrete location in the Preserve's interior. He points out that this level and strategy of development would comply with his call for staged access. He feels that, under his plan, 90 percent of the visitors would see the visitor center and enjoy it and 8 percent of the visitors would actually drive into the interior to the campground where they could hike and explore within a narrowly defined zone. The remaining 2 percent of the Preserve's visitors, he believes, would request permits for backcountry access.

While generally supportive of the idea of backcountry permit camping for hikers, if not also horse riders (e.g., John Hogan 1515), other participants voiced their reservations about the idea of developed campgrounds for motorized campers. For example, although Greg Kendall (2481) would support backpack camping within the Valles Caldera, he feels that it would be most appropriate to set up a RV campground outside the Preserve to sustain its wilderness qualities (2489). Craig Martin states,

> I like the idea of maybe the Santa Fe National Forest can open a campground or two close by so there's not actual camping on the Preserve, but there's camping immediately adjacent to it. [2545]

Georgia Strickfaden (3393) and John Hogan (1508) voice similar sentiments. Hogan explains his reasoning: "I would not like to see ORV's [off road vehicles] in there. I would not like to see motorized camping in there....There are abundant opportunities for that all around it..." (1508). He characterizes areas in the surrounding forest that allow recreational vehicles as "trashed."

Hogan is skeptical that the VCNP's managers will make any kind of decision about camping any time soon, however. He feels that camping is one of the issues about which the

VCNP's decision makers are afraid to establish a precedent that would be hard to retract later on (1514).

Porter Swentzell agrees with Hogan that RV campgrounds should be limited to the surrounding SFNF (4655). He thinks that the USFS should provide certain facilities and amenities that do not need to be replicated in the Valles. The different agencies can, and should, have different missions, but they can complement one another.

Chris Judson (1989) believes that if the VCNP finally opens a RV campground, it will be packed. Also, because the VCNP has a shorter warm season than Bandelier, the crowding might even be more severe than what the NPS experiences at Bandelier.

Motorized Vehicles

Tom Ribe (3056) is critical of off road vehicle use in background areas generally and in the Valles Caldera specifically. He especially does not want to see ATVs allowed in the Preserve because he feels that they have a disproportionate impact given their noise, pollution, and ground disturbance (3064). Even hunters who kill an elk within the Preserve would not be exempt from this ban (3120; see also Art Morrison 2715, 2717, and 2718).

Ribe (3063), however, speaks in favor of the VCNP maintaining its shuttle system, which currently follows defined routes to pick up hikers, fishermen, and hunters. He also feels that shuttle vans should be maintained to allow access by handicapped persons, even if the use of motorized vehicles is severely restricted for all others (3121).

Strickfaden (3392) thinks that it should be possible for people to access certain parts of the VCNP in their own vehicles. She emphasizes that these visitors would be obligated to follow very careful instructions on proper protocol and responsibility. Chris Judson (1957), however, cites the many problems experienced by the VCNP when it held a "drive-through tour day" earlier in its history. She maintains that the Preserve's staff learned the difficult lesson that

> You can't just drive around out there, there aren't any roads. It's really limited until they get some kind of usable infrastructure, but I don't know how much they're pushing for that. [1958]

Don Usner (3628) agrees with Tom Ribe and Chris Judson that the VCNP's managers cannot just open the gates and let people drive all over the Preserve. The key is the amount of vehicular access. While "[i]t would be almost impossible to get too many people hiking on trails in the Valles Caldera" (3647), it would not take very many vehicles to disturb the solitude that the majority of people prize. He concludes,

> I think a person should be able to...drive up there, [and] park their car at the trailhead. Carefully conceived so you don't have cars everywhere. The idea I like the best is to have perimeter access points around the natural basin. [3631]

Neither Robert Dryja (705) nor Tom Jervis (1679) want to see the use of private motorized vehicle, including motorcycles, snowmobiles, or ATVS permitted in the VCNP. Jervis (1693) explains that ecologists have started to recognize the impact of motorized vehicles in backcountry environments. Of particular concern to Jervis is information showing that wildlife do not tolerate these machines (1679).

Addressing the subject of ATVs, Bill Armstrong (562) notes that ATV riders are constituents of the public lands in the Jemez Mountains. He points out ATV enthusiasts typically are not going to hike the backcountry if their vehicles are banned.

Charles Keller (2133) recalls an article published by an avid off-road rider, who talks about the responsible use of ATVs and summaries his community's argument against the closure of roads to their recreational vehicles. Whereas the article's author also wants to enjoy a wilderness experience, Keller (2134) finds it ironic that the ATVs enthusiasts' way of experiencing the wilderness impinges the backcountry experience for others because of the noise, pollution, and the like.

Georgia Strickfaden (3264) would like to see the VCNP explore the possibility of allowing tour operators to use tracked vehicles to provide visitors access into the Preserve's remote backcountry settings during the winter. She states that the operators of the nearby Pajarito Ski Area "would love" (3265) to bring their tracked vehicles into the VCNP for people interested in cross-country skiing and sightseeing.

Participants expressed differing opinions on the subject of road improvements within the VCNP. Charles Keller (2121) thinks that the main road within the Caldera should be paved to the designated staging area to make the Preserve more accessible to the public. Porter Swentzell (4655), in comparison, likes how the VCNP currently restricts vehicular traffic. He favors not paving any road within the Preserve.

Art

As noted previously (see *General Views and Recommendations Concerning Access* above), Don Usner (3636), who is an avid photographer, would like for the VCNP to expand its visitor hours to include earlier morning and early evening hours. These times of day offer light conditions better suited for camerawork, as well as providing more likely opportunities for viewing wildlife.

Gary Morton, who splits his time between ranching and painting, observes, "The [painting] possibilities are endless there." Although he did not specifically talk about the early morning and later afternoon light conditions that he observed in the Valles Caldera during his time as the lessee of the Preserve's grazing rights, it is reasonable to suggest that Morton would agree with Usner that artists, among others, would much enjoy expanded visitor's hours to experience the VCNP landscape and wildlife more fully.

Usner also feels that a policy prohibiting staff and individuals working on the Preserve's behalf from taking pictures was unreasonable:

> Somebody... declared that staff couldn't take pictures on the Preserve because they might sell them, and that's revenue that the Preserve should control. I wasn't supposed to be allowed out there taking pictures because I could sell them...It's basically off limits to photographers. [3662]

He maintains unfalteringly that the VCNP is public land and all people should be allowed to take pictures.

Special Events

As already discussed in *Mountain Biking* above, Greg Kendall was involved in the planning and conduct of mountain bike events in the Valles Caldera in 2005 and 2006. He thought those events were a great success, in part, because these events were collaborative efforts between the VCNP and an area biking club. He likes the fact that the VCNP, in partnership with a local astrophysicist, offers opportunities for the public to come to the Valles Caldera several evenings each summer to look and learn about the night sky (2482).

Branden Willman-Kozimor (3806) would like to see more mountain bike and hiking days in which visitors would be allowed the freedom to enter and experience the Valles on their own. From the context of her remarks, it is clear that she seeks opportunities to experience the Valles Caldera's solitude intimately.

Gary Morton (2954) suggests that the VCNP should develop "Cowboy Night" events. These functions, which would be a mix of recreational and educational activities, including cowboy music, poetry, art, and food (i.e., a ranch meal served from a chuck wagon), could raise revenue for the Preserve even as it reached out to the public to provide unique visitor experiences (2955). Morton feels, "It would be so beneficial...to present that working ranch aspect in a positive light" (2978). He thinks further that such events would also be a good forum for visitors to learn about the cultural-historical importance of ranching to the Jemez Mountains' rural communities (2956).

Need for a Visitor Center

Most participants indicate that the VCNP needs to develop visitor amenities. Tom Ribe (3145), for example, states that the VCNP is in real need of basic infrastructure, including a visitor center, a parking area, roads for shuttle vans, restrooms, and law enforcement staff and equipment. He contends that the lack of such basic amenities has inhibited greater visitation.

Branden Willman-Kozimor and Greg Kendall (2491) make it a point to register their disapproval of the current staging area. Willman-Kozimor (3865) dislikes the shed that now serves as the information and hospitality center for visitors, while Kendal says flatly, "I hate the

staging area. Hate it with a passion. It looks like a used car lot... That thing should be taken out and moved to the periphery" (2491).

Tom Jervis (1678; see also above) and Greg Kendall (2484) believe that the visitor center should be positioned close to State Road 4 given that it would attract the most intense use. Kendall (2484) believes that even if the visitor center was within 500 yards of the gate, visitors would still enjoy a nice view of the Valle Grande and be satisfied. He adds that such a visitor center could also be used effectively by the Preserve's managers to provide regular night sky viewing events, which would be welcoming to families while not posing huge disturbances for the VCNP's wildlife (2485).

Drawing from her experience working at Bandelier, Chris Judson (1990) notes the needs for improvements to parking areas and calls for "lots" more bathrooms. Georgia Strickfaden (3390) recommends investments in self-composting toilets.

Porter Swentzell feels that moratorium should be placed on new development out of respect for the Valles Caldera itself. He thinks that other values that would sustain the Valles Caldera's significance as sacrosanct landscape warrant consideration:

> I've always thought that the area was sacred... You can't help what's already been developed... in that space... The landscape is always been changed by people, but with logging and other large-scale recent uses, it's been a heavily damaged sacred space. We don't need to do more than what's already there. [4656]

Swentzell (4656) favors improvements that are limited to visitor pull offs along the State Road 4 highway right-of-way. Backcountry access, he maintains, should be handled by a permit system modeled after the program currently in place at Bandelier.

Elk and Other Wildlife

> *There are too many elk on the Valles. The herd has really grown... and I know it is a constant problem with the neighbors.* Greg Kendall (2495)

Anthony Armijo (267) reports that the elk population has exploded in the portions of the Jemez Mountains surrounding his home in Jemez Pueblo since they were reintroduced into the region in the 1950s. He remembers accompanying his father, brother, and other men from the Pueblo on a pilgrimage to the top of Redondo Peak (275). On their journey, they encountered three does. This was still largely mule deer habitat at the time; however, elk have taken over since this time. Doe and fawn sightings are much less common today.

A long-time resident of Los Alamos, Charles Keller similarly recalls, "In the early 70s, if anyone saw elk, it was a big deal" (2101). Since the La Mesa Fire in 1977, however, Keller (2102), Dorothy Hoard (1285), Teralene Foxx (1655), and Tom Jervis (1655) report witnessing an explosion in the elk herd population even while the number of mule deer has declined sharply (2102). Jervis relates the rapid increase in the region's elk population with the establishment of new aspen groves within the La Mesa Fire burn scar. Dorothy Hoard observes that although the NMDGF views the elk as doing fine in the Jemez Mountains, the herd is damaging the land.

Keller (2103; see also Armijo 266; Jervis 1649) reports that elk, in the absence of their natural predators, such as wolves, survive the exigencies of the Jemez Mountains' habitat better than mule deer because they have ruminant stomachs and can survive on the grasses. Armijo adds that elk are much larger and more vocal, and they intimidate the deer "out of the region" (268) in their competition for forage.

According to Armijo (279), the elk population in the Jemez Mountains now exceeds 4,000 to 6,000 animals. He states that elk are wintering on Jemez Pueblo lands and are making a huge impact on the existing systems. They are upsetting the ecological balance, trampling the grasses and depleting the pasturage upon which the Pueblo's cattle depend (280).

The problems posed by elk are also evident on the east side of the Jemez Mountains. Keller (2105) explains that elk then migrate from the Valles Caldera to lower elevations around

the Pajarito Plateau around Bandelier, Los Alamos, and Santa Clara Canyon during the wintertime. This seasonal cycle creates conflicts with area cattle ranchers because the elk are in direct competition with the livestock for grazing.

Craig Martin (2105; also Teralene Foxx 1062) adds, depending on winter conditions and the amount of forage available to them, elk may even enter Los Alamos to eat homeowners' landscaping, thereby damaging their properties. He concludes,

> I would say we certainly need to manage the elk population in the Valles because it spills over onto the side of the road and sometimes we get too many elk over here, depending on what the winter conditions are. [2582]

The sight of elk has contributed to Branden Willman-Kozimor's wilderness experiences (3855); however, she reports that she has "gotten used to seeing them" on her frequent drives between Jemez Springs and Los Alamos (3855). She says that the animals are not a nuisance to property owners, they raise a public safety issue: just as deer, elk tend to jump into the road in front of cars, thereby creating traffic hazards (3855).

The Valles Caldera's large elk population has environmental consequences for the Preserve as well. Richard Ford (825) and John Hogan (1501) feel that the VCNP is overpopulated with elk, with these animals now pushing the envelope of the Preserve's carrying capacity. As examined earlier in *Ranching*, ranchers (e.g., Timothy Johnson 1784), maintain that elk, which they see as causing more disturbances than cattle, require hands-on management to prevent environmental damages.

Just as cattle, elk are grazers. In fact, Gary Morten (2908) suggests that from what he has observed as a rancher, there is not much difference between an elk and a steer: they eat the same things in about the same amounts. Orlando Lucero (5150) points out, when it comes to range readiness, the elk are the invariably the first ones to graze a pasture—and they do so without supervision. The cattle may be held back, but the elk eat the grass anyway.

The nonranching respondents are unsympathetic with the cattlemen's complaints that the elk denude the grasses to which range managers deny cattle. For example, Tom Jervis exemplifies the tensions between environmentalists and cattlemen when he states, "The elk

aren't eating the cow's grass; the cows are eating the elk's grass" (1661). Hilario Romero (5305) calls for the management of the Valles Caldera's rangelands for the benefit of the elk and mule deer. Robert Dryja (696) would like to see formal comparative study to evaluate the competition between elk and cattle, as well as the respective environmental impacts of each of these populations.

Given the large size of the Jemez Mountains elk population, most participants spoke in support of the idea of hunting to cull the herd. Richard Ford recognizes that hunting is the only realistic alternative,

> The main problem with the elk is they're using hunting in order to manage the elk, and it would be nice if it were actually an ecosystem that was self-managing, but they can't do it. The people around the Caldera would scream bloody murder if there were a couple of packs of wolves running around... [826]

With an acknowledgement of the absence of predators, Willman-Kozimor represents the general opinion that elk "are not very well managed naturally. I have no problem with hunting, and I think that's a good way to keep their number in check" (3853). According to Art Morrison, who has hunted elk and turkeys—and has similarly enjoyed "stalking" (but not killing) deer, in the Jemez Mountains since about 1991 (2678, 2679), the elk herd in the Valles Caldera appears somewhat smaller than it was 10 years ago in response to the Preserve's hunting program.

Participants justify the need for direct human intervention in elk herd management. Several individuals, including Teralene Foxx (1064), Charles Keller (2099) and Robert Valdez (5630), emphasize the artificiality of the elk population; it is a reintroduced species in an environment lacking natural predators. Tom Ribe (3110; see also John Hogan 1500) believes that there not only are probably too many elk on the Valles Caldera landscape, they are not behaving naturally. He also maintains that the VCNP's elk are too sedentary because they are not exposed to wolf predation. With wolves, the elk would move more frequently, thereby giving the plants upon which they feed an opportunity to rest and renew. At present, elk are trampling the land and decimating Apache plume, mountain mahogany, and aspen in some locales (Ribe 3111). Anthony Armijo (277) and O. Lucero (after 5149) call for discussion

among the different parties, including local communities, to address the issues related to damages caused by the large elk population.

Several individuals, although endorsing hunting, were critical of some aspects of the Preserve's hunting program. Fred Vigil (5752) does not feel that the hunting season is sufficient. He thinks that the narrowly defined window goes against the animals' instincts, and he believes that wildlife managers fail to consider the factors of weather, as well as the hunters' skills, in setting hunt windows rigidly.

Hilario Romero (5308) and Robert Dryja (693) do not like the fact that many hunters are more motivated by the prospect of a trophy animal than meat, with the consequence of the largest and fittest bulls being selectively culled, while weaker animals are left behind to the detriment of the entire herd. Although he thinks that hunting currently is good in helping to thin overly large herds, Romero, nevertheless, thinks that "at some point you've got to let nature take its course" (5304).

John Hogan maintains, "[f]rom a community ecology perspective, you want to take out the cows. That's how you control the population" (1502). Tito Naranjo (4422) agrees that larger numbers of female elk need to be elk hunts. He reports that urban residents, who equate elk with wilderness, are overwhelmingly negative in their responses to proposals by the NMDGF to increase female elk harvests, however.

Tom Jervis similarly calls for the issuance of a larger number of cow elk hunting permits. He recalls that the NMDGF issued a large increase in the number of elk hunting permits around Bandelier in 1998. While the more intensive hunt helped reduce the numbers of elk, some hunters were openly critical of this decision because they felt that game managers were destroying the herd (Jervis 1657). He observes further, "Not that many people really care about the meat enough that they'll go out and hunt a cow elk" (1658).

Greg Kendall (2496) thinks there needs to be a greater degree of hunting to manage the herd's population. Fred Vigil, who is concerned about the herd's overall health given that they tend to seek safety in the Valle Grande and Bandelier, which are sanctuaries from hunting, at the start of the hunting season. He believes that the elk could be harvested in a number ways other

than recreational hunting, with the meat being used for the benefits of the homeless centers, prisons, etc. (Vigil 5751).

O. Lucero notes that the Valles Caldera is set up with hunting areas "in the back [pastures]" (5187) at the same time that the cattle are being brought into the Valle Grande for shipment out of the Preserve. He feels that there are ways managerially to segregate hunters from the cattle so both activities could coexist in the Preserve longer into the fall. Besides, he observes, "The surrounding Santa Fe National Forest has cattle all over [during the hunting season], and everybody hunts all year-round over there, and there's no problem there" (5188).

It would be remiss to conclude this discussion of elk and other wildlife managing without examining the importance of game animals culturally and historically to the Jemez Mountains' indigenous peoples. Management decisions made over the past century and today alike strongly condition what kinds of the relationships that members of the region's Tribes currently maintain—and will be able to sustain into the future—with animals that represent key elements of their traditional landscapes.

For example, Louie Hena (4115), Tito Naranjo (4367), and Porter Swentzell (4663) share that their communities, the Pueblos of Tesuque and of Santa Clara, dance the Mountain Sheep Dance, but there are no sheep in the Jemez Mountains today.[81] Hena states, "[T]hey've always been part of our community [the Pueblo of Tesuque], part of our artwork. They've been part of the landscape, too" (4115). He feels that they, along with the wolf, should be reintroduced (5302). Naranjo agrees, noting that the memory of these animals is celebrated in the compendium of Santa Clara Pueblo's place names in the Jemez Mountains (e.g., Ram's Head Mountain). He adds that his community also recalls wolves and antelopes were indigenous to this landscape in its traditions.

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[81] During his archaeological study at Jemez Cave, which is a short distance up valley from the present-day community of Jemez Springs, Richard Ford (762) found that big horn sheep remains were predominate in the faunal assemblage, which dates to the Archaic period [5500 B.C.–A.D. 600] of human history in the Jemez Mountains. Ford believes that big horn sheep were probably most numerous in the Valle Grande area of the Preserve, but also occurred elsewhere throughout the Jemez Mountains. "I felt that there was probably a good pasturage for mountain sheep up in [the] canyons" (763).

The mountain lion is important in another way among the Tewa Pueblos (San Ildefonso, Nambe, Ohkay Owingeh, Pojoaque, Santa Clara, and Tesuque). Tito Naranjo explains that Mountain Lion Man (a.k.a. the Hunt Chief), who the first to inspect the Above World following the people's emergence, gives the power to the Governor and all of the other elected officials to serve in the Pueblo: "They put the bow quiver of the Hunt Chief on their shoulders" (4381).

Swentzell (4663) reports that his community needs wolf, mountain lion, mountain sheep, and bear hides for the proper conduct of the people's age-old ceremonies. Wolves and mountain sheep, however, were exterminated roughly a century ago. The remaining mountain lion and bear populations are threatened by human settlement in the WUI and damages inflicted by recent catastrophic wildfires. Swentzell states further that these animals are more than just resources for the Tribes, they are (or were) valuable members of his Pueblo itself.[82]

As he contemplated the elk management issue further, Swentzell (4668) noted that the Jemez Mountains' environment has changed—and continues to change. He wonders if perhaps people need to update their thinking and begin viewing the Jemez Mountains as prime elk habitat. He adds that the VCNP's managers might need to add predators and allow a greater amount of hunting. Swentzell reports that the Pueblo of Santa Clara allows each permitted individual to harvest two elk, including cows, per year.[83]

Anthony Armijo (264) states that the people of his generation at the Pueblo of Jemez, as well as those of the younger generation, prefer to hunt deer rather than elk. Consequently, he would like to see more and healthier deer throughout the Jemez Mountains (269, 276).

Just as Hena and Swentzell, Armijo (273) would like to see wolves and mountain sheep in the Valles Caldera and the surrounding Jemez Mountains one day, as well as know that other

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[82] The animals are/were members of Swentzell's community in the sense they are integral parts of the Pueblo's landscape, in which the cultural realm of the Pueblo World is inseparable from the natural realm (See Anschuetz 2007c for related discussion).

[83] Swentzell (4668) states that the Pueblo of Santa Clara, just as all of the Tribes in New Mexico, can set its own hunting and fishing bag limits. Not all Tribes nationally have this authority.

animal and bird species, including mountain lion, bear and turkey, would have more secure futures. "All these animals are highly visible within our culture" (270).

Habitat Restoration

> *Are you doing this for fire prevention, or are you doing this for restoration?* John Hogan (1461)

John Hogan views the Jemez Mountains as the epicenter for a lot of the climate change information in the northern Southwest (1464). He believes further that habitat restoration to create an ecologically functioning forest should be a goal of fire and forest management (1460). The VCNP possesses the potential to be a resource wherein climate change and forest restoration concerns can be combined to help managers better understand how we might approach forestry management "in a way that gives us a hedge against climate change down the road" (1464).

Hogan goes on to say that he would like to see the VCNP's managers "get ramped up on their forest and fuel management for a variety of reasons, not the least of which is it's a threat to everything around it" (1474). He feels that the closure and rehabilitation of old logging roads could be integrated into the fire treatment and forest rehabilitation plan after serving one final purpose in providing access for completing earlier phases of the restoration project (1474, 1475).

According to Dorothy Hoard (1189), who has led botanical tours on the Preserve with Teralene Foxx, the Valles Caldera's grasslands are not currently overgrazed. She feels, however, that grasses are actually outcompeting wildflowers. The presence of non-native plant species, however, causes her some concern.

Hoard (1189) would also like to see what the VCNP's managers envision mixed conifer and spruce forests to be before they implement policies and guidelines designed to fulfill these ideals. Her request for this information seems rooted in a fear that managers' habitat restoration goals might not be realistic.

For her part, Foxx (1071) finds nothing wrong with direct actions by the VCNP's managers to enhance native plant and wildlife habitats within the Valles Caldera. She justifies the active management in the VCNP by stating, "They don't have a wilderness experience there"

(1072). That is, the Valles Caldera's environment has been so greatly transformed by human activity over the past century that is far from a natural system.

Tom Ribe (3117) believes that the best things that the VCNP's managers can do to enhance native plants and animals are to reintroduce fire, reduce or eliminate livestock grazing, and exert more control on the elk population. He (3135) sees that might be a place for programs to control invasive plant species, such as tamarisk and, possibly, cheat grass in the future. He thinks that there is no real need for large-scale efforts in the Valles Caldera at this time, however; occasional spot treatments for specific plant species, such as thistles, suffice. Ribe (3117) maintains that a practical reduction in the number of elk is possible through increased hunting.[84]

Charles Keller does not feel that are any areas in the Preserve that are desperately "crying out for restoration" (2237). "I think the woods are recovering from the great sheep grazing of 100 years ago, and [are] doing it pretty well" (2335). In his opinion, even the flora and fauna of the streams are looking healthy (2240). To return the Valles Caldera to a more natural condition, however, Keller (2106) believes that managers would have to significantly reduce the elk population, perhaps by as much as 90 percent from its current level.

Tom Jervis (1651) points out that the sheer density of elk is having a negative impact on the Jemez Mountains' ecosystem as a whole. For example, he notes that elk suppress young aspens from sprouting. After the Cerro Grande Fire, thickets of aspen sprouted, but the elk completely "mowed them down" (1651), thereby impeding the burned forests recovery. Speaking specifically of the VCNP's elk herd, Jervis states, "I am a firm believer that allowing more public access would help solve the elk problem because people will drive the elk away" (1654).

Jervis urges the VCNP's managers not to "create another Disneyland" (1699) in their habitat restoration efforts; instead, he recommends the adoption of policies and practices that foster a natural ecosystem. He professes the belief that the Valles Caldera "has the potential for

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[84] Although he might prefer to see a reintroduction of wolves into the Valles Caldera under different circumstances, Ribe (3117) recognizes that there is insufficient habitat in the VCNP for these predators. He also concedes that livestock grazing is incompatible with wolf reintroduction.

recovery to a natural environment to the extent that it can be..." (1637), given its location and proximity to human habitation. He advocates the VCNP to determine the ideal number of elk, fire frequencies, etc., for the habitat (Jervis 1650).

Gilbert Sandoval (5421) shares several pragmatic observations on the Preserve's History Grove, which is a 10-acre stand of old growth, open crown ponderosa pine woodlands, relevant to John Hogan's call for managers to provide conditions for creating and sustaining an ecologically functioning forest. VCNP personnel often take visitors to the History Grove to show them what a ponderosa pine forest ideally should look like.

Sandoval reports, however, that the characterization of the History Grove as a model ponderosa pine forest is actually misleading; the History Grove is only representative of a stand of old growth trees: "Every single tree in there is a 'yellow.' A 'yellow' is an over mature blackjack (5421).

Sandoval explains that the History Grove, unlike an ecologically functioning ponderosa pine forest, has no age diversity. The trees are

> probably reaching 300 to 400 years age, maybe more. So, they're entering into the declining stage. And when those trees go, they'll all going to go at once because they're so closely age related. There're no intermediates; there're no saplings. There's nothing but open grass and huge yellows. I feel sorry for the people that are young enough and that are going to be alive... to see that scenario—all dead and standing. [5423]

Sandoval adds that the History Grove trees likely will die in the next generation. "They're probably [okay] within my lifetime, or the years that I have left" (5425). When these yellow pines finally die, the History Grove "will be a ghost of trees... It's like comparison to an old folks home when you go there to die. These trees, they've gone there to die" (5424).

Watershed Protection

> W*hat kind of philosophy guides planning or management of the land space becomes a very important kind of consideration as you think and rethink about how you are going to restore a forest watershed.* Gregory Cajete (3979)

Anthony Armijo (319) shares that water is extremely important to the people of Jemez Pueblo. He reports that Jemez people have expressed to the VCNP that they want the Preserve to function as a healthy watershed for the community and the region. "We know that fire is important to that system to be able to bring about an openness [in the forest canopy], so that rain and snow can reach the ground as snow pack" (321) such that a greater proportion of its moisture can then cycle throughout the environment.

Tom Ribe (3123) observes that the Valles Caldera forms the headwaters of the Jemez and San Antonio rivers. The overpopulation of trees has reduced seasonal water flows. The watershed also has been impacted by cattle and other livestock. He concludes that water yield, fisheries, aquifer recharge all are extremely important and should be given high priority (3124).

Don Usner (3612) views the VCNP as representing an almost intact watershed unit of the Jemez River. He thinks, in theory anyway, that people should be able to "control the destiny of the watershed" (3612) for the benefit of the environment and the people who depend on it.

Robert Dryja and Bill Armstrong agree that watershed concerns should be a high management priority. Dryja (643) notes that if the Valles Caldera should lose its forests because of wildfire, water would flow away easily and the local water table would then drop. Ultimately, the water supply for Albuquerque, as well as Jemez Pueblo and the other communities of the Jemez Valley, would decline. Armstrong (566) decries the fact that despite their importance, watershed issues tend to be poorly funded throughout the region as a whole and its takes

regional-scale disasters, such as the Cerro Grande Fire, to push area managers into action (after 414).[85]

In Dorothy Hoard's (1280) opinion, cattle and elk are "hazards" to the VCNP's water quality. She thinks that the reduction of grazing intensity and the inception of more aggressive hunting programs could offer some relief.

Charles Keller (2240, 2245) believes that the water quality in the Valles Caldera is more or less acceptable, although he maintains that it cannot be considered pristine because of pollution by the numbers of cattle and elk in the area. He notes that many of the VCNP's streams still spread into marshes where filtering and healthy biological activity occur (2241, 2243). He adds that waters that flow through marsh-like areas appear to be in better health than in settings where streams are contained in narrow channel and are unable to spread (2244). Keller (2242) also reports seeing snipes living and breeding in the Preserve's marshy areas, which he views as a "very good sign" of the stream system's health.

Heritage Resources

> *Because there were shrines, because there were medicine plants in there, and because there were animals there that we need.* Tito Naranjo (4371)

Because several participants, including Anthony Armijo (203), Orlando and Fred Lucero (O. Lucero 5025), Roberto Valdez (5539) and Fred Vigil (5753), come from families, not just communities, that have histories of interaction with the Valles Caldera for a variety of purposes. The question of heritage resources, therefore, involves not only the domains of the material traces of certain traditional activities, such as plant harvesting, game hunting and mineral collection, and traditional cultural properties (TCPs) important to their community's history and culture. Instead, for these participants, their cultural-historical relationship with the Valles

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[85] In the aftermath of the Cerro Grande, increased watershed protection measures were undertaken in the two areas that SFNF managers determined to be so important that these tracts could not be allowed to burn in catastrophic wildfires: LANL and the Santa Fe Watershed (Bill Armstrong 415).

Caldera is deeply personal; it is about *family* in the literal sense. The assemblage of artifacts, features, and landscape elements that document peoples' interactions with the Valles Caldera over time includes archaeological traces and ethnographic places used by known relatives, not just faceless ancestors remembered in abstract. In some instances, features and places were even visited by some participants themselves (e.g., Tito Naranjo 4370 and Fred Vigil 5664, 5665, 5767) when the land was still owned by the Bond or Dunigan Families.

Roberto Valdez and Fred Vigil talked about their family's relationships with the Valles Caldera in comparative detail. For example, Valdez (5539) says that his Grandfather Herrera spoke of working as a shepherd in the Baca Location when he was 19 (ca. 1938) for a man named Andres Martinez, who was a large operator. Martinez and his grandfather ran the sheep to Hot Springs for dipping because its water contained a lot of sulfur.

Vigil (5753) remembers that one of his dad's uncles was one of group of men who would go up Santa Clara Canyon and spend a week at the Los Ojos de Azufre in the Valles Caldera. They would soak their big quilts in the sulfur-rich spring water to disinfect them. He also reports accompanying his father into the Baca Location to fish its streams (5665, 5754), believing that his father knew Bond Family members (but not Patrick Dunigan or any of his family) (5755), and walking the Hi Line Trail that crosses *El Bordo* along the Valles Caldera's north margin (5767).

For Valdez and Vigil alike, there is a deep curiosity for them to see where their family members went and what they did within the Valles Caldera. They would like to go into the VCNP to see places, such as the sulfur springs where family members dipped sheep and cleansed blankets (Valdez 5546; Vigil 5757).

Vigil thinks that the Valles Caldera is important not just for its scenery, but also for the cultural-historical relationships that the traditional communities surrounding the Jemez Mountains have longed maintained with this landscape. In his opinion, as a member of a family that interacted with the Valles Caldera, current management policies represent "a kind of exclusion" (5762), which is simultaneously personal and painful (see Chapter 17 for further discussion).

Valdez shares with Vigil the feelings of alienation and exclusion from the VCNP because of its management policies. Family members seldom have visited the Valles Caldera directly because of how the land has been fenced and allocated.

> The connection they seem to have the most with is traveling along the western side of the Baca Location Grant and to La Cueva and Jemez Springs. There's memory with that place because of the Hot Springs, because of the strange things to see there—Soda Dam and so on. [4456]

Nonetheless, the curiosity about what their relatives saw and did in the Valles Caldera is so great among Valdez Family members that Roberto has felt compelled to trespass into the VCNP to take pictures and orally describe what he saw for his grandmother, uncles, and other family members. "It's like seeing what is denied to us...Nobody could ever penetrate [it to see for themselves]" (5552; see also *Relations with Neighboring Hispanic Communities* in Chapter 12).

Drawing on his ethnobotanical training and experience, Richard Ford expresses concerns about the identification and sensitive management of cultural resources not usually recognized by cultural resources managers. Rather than focusing on obsidian artifact assemblages, which are prominent within the Valles Caldera's landscape, he focuses most of his commentary on trees that were purposefully modified for a variety of purposes and dendroglyphs (i.e., images carved into tree trunks). He notes, for example, that the members of the Jemez, Tewa, Keres, and other Pueblos of the region shaped oak trees so they would grow straight branches suitable for use as digging sticks (790, 791), as well as harvested acorns for food. Ford (795, 797, 798) also talks about how the area's residents traditionally stripped ponderosa pine tree bark to obtain the sugar-rich inner cambium layer for food during times of starvation, scarring piñon trees to make them produce pitch needed for medicine and adhesives, shaping ponderosa pine trees for cradle board panels, and pruning juniper trees to produce straight bow staves.

He reports further that Native American and Hispanic residents traditionally removed dead branches from piñon trees while harvesting pine nuts (see also *Piñon* in Chapter 13. Ford explains that if a person removes these branches, a trees forms scars over the wounds and exudes sap over them, thereby keeping out pathogens. "By removing the dead wood, the tree lives

longer. You also strengthen the tree for putting more energy into nut production" (799). To harvest piñon nuts and prune dead branches simultaneously, the people used stout poles, which they produced by managing coyote willow trees such that they would grow suitable branches (800). Since the introduction of livestock herding operations in the seventeenth century by Spanish colonists, shepherds have commonly carved their names, dates, and other images in trees wherever they ran their flocks in their upland summer pastures, including the Jemez Mountains (Ford 802).[86]

Ford emphasizes that each of these activities leaves distinctive kinds of scars on the trees, which otherwise continue to live and grow. He views such trees as "living artifacts" and contends that they need to be protected as "non-renewable resources" (795). Citing potential damages by wildfire, fire fuels management prescribed burning and thinning, fuel wood harvesting, and elk, which rub trees with their bodies, Ford states, "In the Valles, as a cultural resource that needs protecting, certainly the dendroglyphs are a very high priority" (804). He maintains that forestry people, wildlife managers, and cultural resources specialists all need to learn how to recognize, document and evaluate these often fragile cultural resources (796).

Although he favors the protection of cultural resources, Greg Kendall (2499, 2511) wonders if the VCNP's managers sometimes manipulate the existence of cultural resources in some localities as the rationale for denying the public's access to whole tracts within the Valles Caldera. "It's a way to keep things from happening" (2511).

Geothermal

One participant, Orlando Lucero, discussed the Preserve's geothermal resource. He was on the Baca Location during the Baca Geothermal Pilot Project back in the early 1980s. O. Lucero (5125) believes that there was plenty of potential for geothermal energy development in the VCNP. Although he concedes the issue is probably now dead forever, he thinks that the potential of geothermal energy development should have been explored further. Just as logging,

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[86] Ford (802) offers the interesting observation that the carved dendroglyphs in the upland pastures were complemented by petroglyphs (rock images) that shepherds variously pecked and scraped in boulders found in their lowland winter ranges.

O. Lucero believes that geothermal development within the VCNP would not be detrimental to the environment.

CHAPTER 10
CASTING THE VCNP AS AN EDUCATION AND SCIENCE CENTER

> *We can only affect real change in our little spaces and places. In some ways, this offers the opportunity for people to get together and begin to rethink very deeply about how you interact with the land and how you facilitate its healing, [while] at the same time, begin to understand that it is a very precious resource.* Gregory Cajete (3982)

Georgia Strickfaden feels that people are "so out of reach" (3386) with their natural environment. Stating that "[w]e need to learn the dynamics of nature" (3387) to live more gently with the planet" (3388).

Gregory Cajete shares Strickfaden's views and offers further insight. He talks about what it is to be an educated person and contends that education is more than reading and writing (4015). He believes further that a person cannot be truly educated "to the exclusion of the Natural World, to the exclusion of experience with other people" (4015).

He views the spate of catastrophic wildfires that have burned in the Jemez Mountains in recent decades as not only "a big wake-up call for lots of people... [but also] ...potentially an opportunity to educate ourselves to become wiser" (3984). While conceding that people remain in the process of recovering from major trauma given the succession of major wildfires that are devastating the Jemez Mountains, he maintains that society needs to move beyond the point of grief and develop new policies (3985). He observes, however, that a major challenge that all of us face is to lose sight of the experience and the difficult lessons learned over the passage of time as new people arrive and replace older generations (Cajete 3987).

Cajete maintains,

> Part of this process... is going to be how we engage people... into really understanding human interactions with the land and landscape... I call it 're-ecologicalizing' our mindsets. [3988]

He explains, "There is a tendency for human beings to forget... We have the propensity not to remember" (3989). A curriculum, therefore, is needed to help people to remember. "The most important thing is to give people experience with the land in understanding what happens to land" (3989). Moreover, he maintains that people also need to "re-educate ourselves about ourselves" (3990).

Cajete is critical of our current educational system because young people do not have "the empathy for the Natural World" (3993) because teaching ecology and other sciences has become difficult in this day and age of "No Child Left Behind," with its narrow focus on reading and math (3992). He speaks for the need of

> ecological education that sensitizes us... That from the earliest age gives us a sense of empathy for the Natural World, for its plants, its animals, its places. You don't get that except through experience, real experience with the Natural World. [4017]

Children lack a passion to want "to learn about plants and animals, and what happens to forests when they are trying to come back from a major fire" (3993). Cajete maintains that this situation has dire implications for the health and functioning of society because young people not only will be the decision-makers in 30 years, "they'll be directly impacted in much more pronounced ways than we can imagine with those situations" (3981).

Cajete believes that to address these challenges, society has to begin to think in terms of the intangible, as well as tangible, dimensions of how people interact with their landscapes "with regard to the management and use of natural spaces and places like the Valle Grande" (3983).

Speaking about the communities living in fire-prone WUI, Cajete contends that thinking about "our values and about how we interact with the landscape" (3991) can be facilitated, in part, through a comprehensive education and planning process around the fire in the current

environmental situation that we now find ourselves in. As such, he views landscapes, such as the Valles Caldera, as important as centers for environmental education.

Craig Allen (74), Bill Armstrong (519), Robert Dryja (647, 648), Richard Ford (890, 891), John Hogan (1497, 1498), Charles Keller (2111), Tom Ribe (3058), Hilario Romero (5301), and Branden Willman-Kozimor (3828) share Cajete's opinion that the Valles Caldera could productively be an educational and science center. Another participant, Tom Jervis (1735), extolls the virtues of environmental study, such as what the VCNP is already conducting. Ford, in fact, believes that if the VCNP established a university-level field practicum for students (890) and an accessible monograph series for broadly disseminating the findings of the studies completed in the Preserve since its purchase by the U.S., "the Valles could become one of the great science laboratories in the country" (891).

Craig Allen believes,

> The Preserve is a great place to do fire management, in theory because you've got all these nice domes isolated by grasslands. So you should be able to manage fires on these domes without threatening the rest of the universe. You could let things burn or you could ignite things on purpose. [74]

He credits the VCNP's managers for trying to create a program that would use science to inform contextually, provide feedback for monitoring, and invest in topics that the public have a larger interest in (173). He adds, however,

> There are other perspectives. Science isn't the only one. There are cultural reasons; there are aesthetic reasons; there are philosophical reasons. There are a lot of reasons why we make decisions. [175]

If the VCNP is defined as an education and science center in broad terms to examine a wide complex of environmental and managerial issues, Allen (175) suggests that the Preserve would give a wide range of publics, each of which has opinions about the VCNP's management, "solid information" for basing substantive and informed dialogue. He adds that he has thought since the time of the Preserve's purchase that the vision of the VCNP becoming self-supporting had potential if part of it was to use science as a part of the foundation (Allen 172).

Bill Armstrong (519) feels that the Valles Caldera could be used in controlled studies to teach people how the different land and forestry management methods work. In this way, the Preserve might contribute to a broader base of acceptance for the different treatments available to managers. Drawing from his experience in forestry and fire and fire fuels management, Armstrong notes that it requires "a lot of effort to develop and educate the publics, and for them to educate us about what...they were talking about (423). Because everyone has different opinions and perspectives, complex environmental management issues are especially challenging. Armstrong has found that when institutions, such as the USFS, the Nature Conservancy, and the VCNP, engage in on-site "educational conversation" (565) complete with fieldtrips to demonstration areas (425, 426, 520, 521), skepticism shared widely among participants from diverse publics can often be assuaged (428).

Hilario Romero views the VCNP as "a giant outdoor classroom" (5301). He maintains that the Preserve's value, in large measure, lies in it being "a living classroom" where young and old alike can learn to interact differently with nature in ways that do not harm the environment. He supports the use of the VCNP to demonstrate the feasibility of proposed initiatives through pilot programs (5318) and then develop a management model that the USFS might emulate (5317).

Robert Dryja agrees that the Valles Caldera should become a learning center (647), wherein children can experience nature first-hand so they develop a "higher level of awareness" (717) and members of diverse interest groups work together to achieve common goals for sustaining the environment through their various activities (613). In his judgement, the Preserve "is an investment in the future of how people understand the world around them" (648).

In casting the VCNP as a learning center, Dryja advocates for the creations of programs for children, adolescents, and adults to learn and explore. People should be able to go in and "recharge their emotional battery in nature" (649). He believes that cattle ranching should continue to be permitted in the Preserve to show people the balance among the needs for food, the pastoral-agricultural economy, and wilderness (650). Exposure to these diverse land uses and requirements, he reasons, would help people appreciate the complexities of the practical realities of their world (Dryja 650, 695). Such experiences could also constitute valuable lessons in cultural diversity, and give participants the foundations for appreciating the value of the

traditions maintained among the Jemez Mountain's different Native and Hispanic communities (after Dryja 740).

Dryja (698, 700) suggests that a trail building program, modeled after the Philmont Trails initiative run by the Boy and Girl Scouts at the Philmont Ranch in northeastern New Mexico, might be a productive starting point for implementing his calls for action in the Valles Caldera and surrounding parts of the SFNF. Besides trails within the Preserve itself, he calls for a trail network through the VCNP to the Red Rock Country area to the north.

In addition to providing lasting infrastructure for hiking enthusiasts, participants in the trail building program could provide them with a positive wilderness experience (Dryja 698). He adds that a trail system built as part of an educational program could also be an economical undertaking (703).

John Hogan elaborates upon the benefits of a program to build trails across the Valles Caldera within a broader educational enterprise to provide young people with practical learning experiences—about nature and themselves:

> Trail building is more than trail building. It's like the ultimate metaphor for life. It's a path. It's about making your own way. It's about constructing your own way. It's a lot about water. It's about controlling...the three biggest enemies of a trail are water, water, and water. You learn a little hydrology. You learn some patience. You learn how to pace yourself when you're working. You learn about minimizing impact so it doesn't erode. You learn about steepness, about building bridges. You learn about building rock walls. You learn about teamwork. In a place like that, to be there and be involved in that kind of work, it's very powerful...especially when you provide context for it...You provide the ecological context, the engineering context, the human history context. [1521]

Hogan, it should be added, thinks that trail development would be a great opportunity for volunteers from the public at large for the same reasons (1519, 1520; see also Vigil 5728).

Just as the Los Alamos Ranch School practiced during the span between the First and Second World Wars of the twentieth century under the tutelage of Ashley Pond (after Georgia Strickfaden 3216), Hogan (1363) recommends the development of an education program that links physical and mental, community service. He believes that this trifold emphasis creates a personal link to people's local landscape and helps them comprehend the good and bad impacts they have on environment (1527). Also, it creates a responsibility for how people should care for their environment.

Hogan supports a curriculum that teaches children through engagement. For example, in his work around Los Alamos, he asks children to map and name their own geography, maintaining that people relate to places by naming them and becoming familiar with them and making places personable and meaningful (1522). He thinks that the Valles Caldera provides a highly suitable location for similar activity: "That's an element of mystery, and imagination, and creativity that we can bring to the educational process and what a place to do it" (1438).

Hogan further recommends education programs that require students to use the languages of words and numbers to produce an accurate description of the environment (1455). He reports that children are fascinated by being able to apply the language and math skills that they learn in school in practical ways and see how they are relevant to their everyday lives (1456).

Hogan (1497) thinks that the Jemez Mountains can be a model location for the study of fire ecology in the face of climate change. The Valles Caldera, in particular, offers a prime opportunity for studying how forestry management can be used to combat climate change. With the inclusion of hands-on public education programs about fire ecology, which Hogan views as a "a segue into everything else" (1440), laypersons would understand fire ecology and the importance that fire plays in the Jemez Mountains' forests more fully (1481).

Hogan (1509) concludes by saying that educational programs in the Valles Caldera should not be always driven by cost considerations. He thinks that some initiatives should be dedicated to characteristically poor youths from nearby rural settlements:

> It would be wonderful to have the opportunity for kids from traditional northern New Mexico communities to stand out there in the dark on a starry night and experience what their ancestors must have experienced. [1509]

Because the Valles Caldera is "such a special place," Branden Willman-Kozimor, wonders if it might be appropriate to prioritize the use of this landscape by " educational groups to learn about more pristine areas" (3828). "I think it would be a really powerful place to launch environmental education from and collaborate with other groups there" (3886).

Willman-Kozimor (3749, 3752), just as John Hogan, calls for a hands-on, engaging curriculum that gets young people involved in the collection, reporting, and evaluation of data (e.g., see Willman-Kozimor 3771, 3772) using skills that they learn in their traditional classroom academic training. She recounts how she has previously taken 6th and 8th grade students to Redondo Meadow to collect data, including the number of trees per acre, groundcover vegetation, tree diameter and canopy cover, on a part of a forest that was scheduled to be thinned. She is confident that "[k]ids could be used to collect that data on other parts of the Preserve" (3841).

Not limiting the educational process to language and math, she also supports the idea of incorporating arts, such as poetry, map making and multimedia journals, into the curriculum (3782, 3786).[87]

> Some kids learn better through the arts and through writing... The science is great, the math is great. It's very important, but I think adding the other side would be very beneficial. [Willman-Kozimor 3783]

She wonders if a youth educational program might also be able to include an explicit public service component, such as involving adolescent and adult participants in tree thinning operations in some way (Willman-Kozimor 3840). She recognizes that risk and safety issues for minors, if not also nongovernment personnel, might preclude such an activity (see also *Liability Insurance Pool* in Chapter 12).

Willman-Kozimor endorses an idea, which one of her associates had previously raised in another context, of developing blocks of different kinds and stages of fire fuels treatments along

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[87] Willman-Kozimor (3888) contends that there's never a lack of creativity in developing effective environmental education. It always comes down to a question of money.

a forested trail (Willman-Kozimor 3845). This way, managers and educators will be able to show the public what wooded habitats look like at the time they are treated, how these treatments affect forest growth and the buildup of fire fuels over time, and how the different methods compare with one another and unmanaged forested tracts. Willman-Kozimor also thinks that the VCNP's managers should promote some of their prescribed burning operations, which are visible from the State Road 4 right-of-way or other safe, accessible venues, as a guided "spectator experience" (3848). She believes that such educational outreach would be useful for teaching visitors about the purposes and methods of prescribed burning.

Another of Willman-Kozimor's recommendations for course design is making educational programs a family-oriented enterprise. She reports,

> When the parents come out as chaperons for the fieldtrips, they have wonderful questions. They learn just as much, if not more, than the kids do. They are so interested... It's not just the kids who are learning. [3790]

Referring specifically to the students from communities in the WUI, she adds, "I think as far as funding goes, we're going to have to think more broadly" (3760) than proposing simply a summer program. She recommends that a summer program in the Valles Caldera be included with wider community efforts to protect people's homes from wildfire (3762). She wonders if these initiatives would be more able to receive needed funding if they were broadly conceptualized and inclusive of many more people, including students, their families, and other community members.

To implement an effective educational program in the Valles Caldera, however, provisions allowing over-night stays are a necessity. For example, even for residents from Santa Fe in north-central New Mexico, Willman-Kozimor finds that the drive to the Preserve is a little too long for a one-day program and states, "[T] that's been our biggest hurdle... It's becoming an hour and a half [ride] on a bus each way..." (3765). Most educational programs, therefore, require camping facilities.

Tom Ribe (3058) feels that the VCNP has a strong science program.[88] The staff understands the landscape. Their research not only has become the center of the Preserve's management, it represents one of the most important uses of this landscape (3061). He supports calls for the Valles Caldera to become a center for science and education, wherein researchers can learn what people can do to help their so-called wilderness areas recover from past abuses (3062).

Charles Keller (after 2111) similarly feels the VCNP represents an opportunity to develop, apply, and evaluate different land management techniques, including ranching and logging practices, as well as continue to conduct long-term studies of fire ecology in mountainous forests during this time of climate change. He wants the VCNP's managers to learn how to manage the land such that cattle ranching (2097, 2112, 2192) and logging (2197) are profitable and ecologically sustainable. He also would like to see a study of the riparian ecosystem to determine if there are opportunistic plants that are suppressing other indigenous species under current levels of cattle and elk grazing (2229).

Keller (2169) believes that there should be much more comparative study of the fire ecology of the Valles Caldera because it possesses such a variety of habitats in which fire behaves differently. Fire and fire fuel managers could examine full topographic cross sections of the Valles Caldera to monitor fire behavior under varying conditions. This kind of scientific investigation is needed so managers can "make certain that the fire and fuels management policy is based on what we know about healthy forests and how they need to be managed (Keller 2247).

Although he did not identify the VCNP specifically in his remarks, Tom Jervis talks about the need for and value of educational programs that help people understand the environment "where they live" (1727). He maintains that people living in urban settings generally do not understand the natural ecology of the wilderness (1732) and he doubts "that you

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[88] Craig Martin echoes Ribe's assessment of the VCNP's science program:

> [T]hey're at least establishing a scientific background to create that interrelated management which is pretty unique. I think it's one of the great advantages of the way the place is managed, is they can have the scientists on the staff. [2594]

could find very many people [from the general public] who could articulate why fire is good" (1730), in the case of "for the proper functioning of forest ecosystems" (email to Kurt Anschuetz, dated August 2, 2013).

Jervis (1732) feels that the benefits of fire have to be de-mystified for the public, but given the increased incidence of catastrophic wildfires in recent decades, he feels people are curious and desire substantive information. Educators and managers, in his opinion,

> can talk about the ecosystem process, the process that hunting is substituting for, and why they're doing it. It will make sense to people. [Jervis 1701]

In remarks that recall comments shared by Gregory Cajete and Robert Dryja, among others (see above), Jervis adds,

> If children grow up believing that the natural world is understandable at some level...I think you've laid the groundwork for changing people's attitudes about fire...If they believe that nature is understandable and benign, they will believe that fire can be understandable and benign, although sometimes bad things happen. [1735]

Before concluding this discussion, it is important to note that several ranchers voiced concerns about how the Preserve's managers might be using the science program to impede the use and access of the VCNP by other stakeholders. For example, Fred Lucero says, "How long are you going to study it? Sooner or later you've got to do something with it" (4981). Orlando Lucero shares his brothers assessment that "there's all study" (5208), but no action. He complains that the government used to get things done on the behalf of area residents.

Gilbert Sandoval remarks,

> Too many experts in there now. The Valles Caldera is littered. I mean, they've got volunteers, experts galore. They don't even have to pay them to come in to put their two cents in. [5453]

The ubiquity of the Preserve's scientific studies and their long duration lead F. Lucero to question whether VCNP staff and affiliated scientists simply want "to go in and enjoy it

themselves" (4983). He concludes that the VCNP is not working, in part, because the science programs are exclusive (see also *Advocacy and the Need for Advocates* in Chapter 12).

CHAPTER 11
POSSIBLE ALTERNATIVE MANAGEMENT MODELS FOR THE VCNP

Besides resources management goals, we're talking landscape-scale issues for watersheds, fires. All those things. Craig Martin (2545)

U.S. Department of Agriculture Forest Service (USFS)

Several respondents do not believe that the VCNP should adopt a USFS management model or be subsumed by the agency itself. As succinctly stated by Richard Ford, the VCNP cannot be managed in the same way as the SFNF because "they have different mission statements" (835; see also 834).

Even though she speaks favorably of the USFS (1193, 1207)[89] and feels that the agency is often unfairly criticized (1194, 1195), Dorothy Hoard (1206) wants to see greater protection provided for the Preserve and states that access should not be as open as on the adjoining SFNF. She has concerns about whether the VCNP's managers would be able to effectively permit and regulate the range of activities conducted on USFS lands.[90] Citing that the Valles Caldera is an intact volcanic crater, she believes that the Valles Caldera and the adjoining portions of the

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[89] A self-described "big supporter," Hoard thinks that the Forest Service does "a pretty good job" under very difficult circumstances (1207). She feels that the agency is underfunded given the size of its holdings and the breadth of its management duties. To compound matters, the Forest Service lacks the backing of "friend" organizations.

[90] Although she prefers that the Forest Service not take over the administration of the VCNP, she rejects a common view that the SFNF would necessarily "trash" the place (Hoard 1210). Rather than condemn the agency for implied managerial ineptitude, Hoard underscores her point that the Forest Service's mission is inappropriate for the kind of management that this special landscape deserves.

SFNF are different and should be managed differently: the Valles Caldera "has its integrity. It's something that you should pay special attention to" (1208).

Teralene Foxx (1006) similarly believes that the USFS does a good job fulfilling its particular mission, and she (1099) generally shares the SFNF ideas and values regarding certain environmental management issues, such as prescribed burns. Additionally, in her experience, she has found that the SFNF's managers listen to her opinions because they are willing to acknowledge her environmental expertise (1101). (She's not sure that the VCNP's managers would either listen to or consider her opinions.) Nonetheless, she recognizes that the VCNP's mission is quite different from that of the USFS's. For this reason, she suggests that the USFS management model is largely inappropriate for application in the Preserve.

Charles Keller states,

> I don't see a lot of difference between the two [VCNP and the USFS] ... because both are trying to maintain a natural heritage within the conditions that human beings get to use it. [2141, see 2144]
>
> They ensure that multiple use doesn't become multiple abuse. [2131]

Branden Willman-Kozimor (3871) recognizes that the USFS's mission, just as the VCNP's, is to manage its holdings for multiple uses. She does not feel that the USFS administration of the Valles Caldera would be appropriate, however. Addressing the issues of public access for recreation and fuel wood cutting on the SFNF around the VCNP, she suggests that Albuquerque is so close that the National Forest actually might be "overly used" (3868, 3871).[91] In other words, Willman-Kozimor follows Dorothy Hoard and Teralene Foxx in suggesting that the VCNP requires a greater level of management of recreational and fuel wood harvesting activities than what the USFS is able to provide.

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[91] Willman-Kozimor (3836) reports seeing a lot of trash left behind at the campsites in the Jemez Mountains. "The public uses and abuses the Santa Fe National Forest—it's disgusting what people leave behind and how much damage is done there" (3834).

Two USFS employees, Bill Armstrong and Art Morrison, express reluctance about the prospect of their agency assuming control of the VCNP. Although Armstrong believes that either the NPS or the USFS could manage the Valles Caldera successfully, noting "there's not that much difference between them anymore" (552), he suggests that the VCNP might be better served by maintaining its current status as a National Preserve. Under the present system, he thinks that the VCNP has more opportunities to develop and apply new kinds of management policies and tools than either the USFS or the NPS could provide (518).

Armstrong warns that the SFNF is "driven largely by what Congress wants us to do" (515). He consequently concedes, "[A]s an agency, we do a very, very bad job of creating awareness, or of convincing people" (567) of pressing management issues, such as the need for fire fuels mitigation in watersheds critical to nearby metropolitan areas. Because it lacks adequate infrastructure for meaningful interaction with the public, he feels that the USFS is becoming an orphan agency with no constituency (Armstrong 564).

Despite his reservations, he states,

> I would like to see much more public access in there... I would like to see it on some scale similar to how the Forest Service template as far as opening to the public. [556]

Art Morrison, in comparison, observes, "If [the VCNP is] under National Forest Service management, people expect and want to go wherever they can. It's *their* public land" (2783). He maintains, however, that the Valles Caldera is more fragile than the Santa Fe National Forest and should not be treated in the same way (2788). That is, the USFS's mission is not congruent with the Preserve's qualitatively different challenges. Morrison shares another relevant observation:

> If we managed it [VCNP] on a per acre basis the same way we manage the rest of the Santa Fe National Forest, there would be a huge decline in its services, and a lot of people aren't happy now... [2787]

National Park Service

Tom Jervis says, "My idea is that the Valles Caldera National Preserve becomes a National Preserve managed by the Park Service, under the Park Service mandates, but with hunting" (1700).[92] He explains that the NPS, as an institution, is much more interested in—and has recognized the importance of—functioning ecosystems (1662). He thinks further that the NPS tries to reestablish functioning ecosystems in the belief that functioning ecosystems will be self-sustaining (1663). Jervis (1691) also feels that NPS acts with an intent to preserve, while providing recreational and educational resources to the public.

Chris Judson talks extensively about the NPS' management of Bandelier. She believes that Bandelier's management plan would be a good resource for the VCNP to learn about what works and what does not work well in the Jemez Mountains' environment (1971). Because Jervis (see above) and several other participants (e.g., Richard Ford 871; Peter Pino 4546; Branden Willman-Kozimor 3835, 3878) prefer to see the NPS take over the administration of the VCNP, it is worth highlighting some of Judson's remarks.

Bandelier is not simply thinning its woodlands to reduce its wildfire risk, managers are implementing an ecological restoration" program that focuses primarily in its vulnerable piñon-juniper habitat (1929). This activity includes the cutting and scattering of branches over large areas of the Monument in an effort to reduce erosion and retain soils in place (1930), thereby allowing herbaceous ground cover plants to grow back and restore a more natural cycle (1931).

The Monument requires backcountry visitors to obtain a permit and maintains a strict quota on the number of permits that can be issued at any point in time.[93] Throughout most of the Monument, camping groups are limited to 6 people because so much of the soil is so unstable that managers are concerned about trampling and subsequently erosion. In the southwest corner

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[92] Jervis (1700) acknowledges that should the NPS assume managerial control of the Valles Caldera, it will face the immediate challenge of educating the public about why the agency would continue to permit hunting as a necessity to control the elk population.

[93] Although there is a limit on the number of backcountry permits allowed by Bandelier, the Monument "never" has come close to this quota (Judson 1966).

of Bandelier, the limit is 4 people per camping party, while Capulin Canyon has two areas that allow 12 people in each camping party (1967). Judson concludes that Bandelier is just "not a good place for big groups" (1968).

Judson explains that Bandelier emphasizes providing visitors with the quality of solitude in their permit system in addition to maintaining an ecologically sustainable level of backcountry visitation. When campers sign their permits,

> One of the things that they're agreeing is to be out of sight and sound of other groups, so that everybody hopefully has the illusion that they've got the whole place to themselves. [1973]

The backcountry permit process requires visitors to come to the Permit Office at the Monument's headquarters to register in person, even if they plan to enter the Monument from remote trailheads on the SFNF (Judson 1969, 1975, 1976 1982). The rationale for requiring on-site permit registration is for visitors to provide staff with an itinerary that identifies their car, their intended parking area, the trail that they plan to hike, where they expect to camp each night, and the length of their stay in the Monument. Judson explains, "One of the objectives of having permits is so that you can limit how many people will be in one of the zones along the creek" (1974). Judson (1995) also believes that Monument's requirement for visitors to make personal contact with staff when they obtain their permits is invaluable because it gives managers the opportunity to explain things and make sure that the visitors are prepared properly.

Furthermore, backcountry permittees are asked to revisit the Monument's headquarters at the end of their backcountry star to sign out. This way, staff knows that they have left the Monument as scheduled, thereby preventing false searches for missing persons, as well as allowing opportunities for visitors who follow to obtain their permits (Judson 1969).

Several other points that Judson raises warrant mention. Backcountry campers are not allowed to have fires and they are required to pack out their trash (1994). Dogs are not allowed (1979), and restrictions on bringing horses into the monument to limit the potential for their introducing invasive weedy species through their manure has discouraged equestrian recreational activities (1977, 1978, 1979, 1981).

Management of backcountry visitor use is only the latter part of a larger equation. Judson (1956) makes clear that if the VCNP would like to have an effective and sustainable backcountry program modeled after NPS protocols, the Preserve's managers would first have to build appropriate trails and infrastructure. Trails and facilities, in turn, require a commitment to regular monitoring and maintenance (1970).

Bill Armstrong (552) feels that the NPS, just as the USFS, would be okay with managing the Valles Caldera. He suggests that the NPS might have more latitude with the public because they perceive them as the "good guys" in federal land management (553).[94] Although he believes that the NPS does "a much better job managing people than managing resources" (554), Armstrong notes that the Park Service in recent years has been instituting policies that have alienated motorized campers (560, see *Camping* in Chapter 9). If the VCNP's managers adopt similar policies at the same time that try to increase visitor use and build a constituency, Armstrong warns that they might harm their objective because motorized campers simply are "not going to get out and hike" (563).

Teralene Foxx has mixed feelings about the idea of the NPS assuming management of the VCNP. On the one hand, she favors the NPS for being more able to accommodate visitors than the USFS. She feels that the NPS wants people with diverse interests to explore the parks (990). Then again, Foxx notes, "Most places in the National Parks, you are very confined to what they want you to see" (989) and "The Valles [Caldera] has that Park Service feel, to an extreme" (991). She then supports her opinion about the extremely limited access visitors have to the VCNP with an example: "The Great Sand Dunes, you can go to the top of the dune, but the Valle Grande you cannot get into the valley" (1001).

Although they are advocates of managers increasing visitor access to the Valles Caldera, Georgia Strickfaden (3396), Porter Swentzell 4653), and Don Usner (3646) express concerns about the prospect of the NPS, if it should acquire the responsibility of administering the VCNP, about opening the Preserve too broadly. Strickfaden and Usner cite the Yosemite National Park

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[94] Tom Ribe (3140), in comparison, feels that the NPS is often considered to be the "bad guy" by stakeholders who favor extraction of the parks' resources.

and Swentzell names Yellowstone National Park as examples of NPS units that have been harmed by visitor access policies that are too lenient.

Strickfaden (3403) is also critical of the NPS for what she perceives to be an unfair fee schedule for commercial operators bringing guided tours into Bandelier. She reports that it costs her $50.00 to bring a tour group to the Monument in her small van. Large tour busses, in comparison, are charged only $150.00, despite the fact that they carry more than three times the number of visitors. She maintains further that the smaller tour operators provide greater assistance to the Monument with crowd and vehicle control, but these contributions are not recognized in the commercial fee schedule. Strickfaden concludes that the small commercial tour operators pay a disproportionately large entry fee and are placed at an economic disadvantage relative to the larger enterprises' lower average per capita entrance fee. She does not want to see such inequity carried over to the VCNP should it provide greater opportunities for commercial tourism.

Gary Morton does not endorse the idea of NPS management of the VCNP. He is concerned that all livestock grazing in the Valles Caldera will come to a stop under NPS administration (2931).

Porter Swentzell expresses concerns about the adoption of a strict NPS management model for the VCNP based on his knowledge of the interactions between Bandelier and his community, the Pueblo of Santa Clara. In beginning his commentary, Swentzell makes clear that he generally appreciates the NPS' management of the Monument. Noting that the Monument promotes itself as being open to tribal members, however, Swentzell maintains this talk is "a little bit of a façade" (4652). He concedes that it is true that Monument does not charge tribal members entry fees. Swentzell maintains that entry for tribal members, nonetheless, requires a good deal of invasive questioning. He feels that "a kind of patronizing" attitude also persists in how Bandelier's managers interact with tribal communities, which trace a cultural-historical relationship with the Valles Caldera since time immemorial that is important to the people's traditions and identities. The NPS, Swentzell (4652) has experienced, creates the impression that the agency is the only "caretaker" of this sacred landscape.

Fred Vigil does not support the idea of transferring the VCNP to the NPS because, he feels, "National Parks tend to exclude people" (5763, also 5765). He explains that if people are poor and do not have a reliable car for travel outside their residential community, they will not visit Bandelier, let alone Yellowstone. He suggests that many local residents, including people from Santa Clara Pueblo, probably have never visited Bandelier. While many individuals might know of the Monument's cliff dwellings, Vigil (5763) wonders how many members of affiliated Native American communities have ever experienced these Ancestral Pueblo houses first-hand.

Vigil (5764) contends that poverty underlies exclusion and many local people feel alienated from places that are important to the cultures and histories of their respective communities. Referring to what he characterizes as the broad breakdown in the relationships between government agencies, including the NPS, USFS and BLM, and the region's traditional and historic communities, Vigil states, "That's part of the divorce. That's where you tend to see that as something foreign..., rather than something that was part of your relationship" (5764; see also *Fear, Resistance, and Divorce* in Chapter 17). Vigil, therefore, would like for the VCNP's managers to break from this institutionalized pattern of disregard and interact with the Jemez Mountains' traditional Hispanic and Native American communities in more respectful and consequential ways.

National Wildlife Preserve

Art Morrison states, "I'm not so sure in the long run that [the Preserve] isn't best suited to be a wildlife refuge" (2777). The purpose of a wildlife refuge is to preserve wildlife, but it allows for recreational opportunities as well like hunting, fishing, multiple use, etc. (2778).

He feels that the Park Service could not manage the VCNP because they would not be able to control the elk herds and their numbers would again get out of control (2779). Morrison (2782) suggests that the Bosque del Apache would be a good reference model for the Valles Caldera. The Bosque del Apache managers have made habitat improvements, created a diverse ecosystem, and provided controlled public access (2786). Public use is based on season, and it includes recreational opportunities.

CHAPTER 12
OTHER ISSUES AND TOPICS FOR THE VCNP

Egalitarianism

> *When you're dealing with public lands, there is one word that has to be your guiding mantra and that's egalitarianism.* Richard Ford (893)

As already examined in Chapter 9, participants would like for the VCNP to be more openly accessible to the public, even if access is staged to focus the most intensive use in delimited locales to sustain its nature and wilderness values in sensitive backcountry areas. Nevertheless, there exist broad, although by no means universal (see below), sentiments that people's access to the VCNP for recreational, ranching, and other entrepreneurial uses should have generally the same opportunities for available entrée regardless of their health, economic status, cultural identity, or residence.

Recreational Access

Branden Willman-Kozimor calls for accessibility that is blind of a visitor's physical abilities: "People of all ability levels should have access to the place, not just people who are able to hike 10 miles" (3866). Teralene Foxx, who insists that the VCNP's managers need to allow people ways to experience the Valles Caldera (1958), explains that prohibitions against motorized vehicles exclude the elderly or those not healthy enough to use hiking trails (1007). "I resent that because I feel like I am being penalized because I am not young and healthy anymore" (1008). As reported previously, Tom Ribe (3121), who is sensitive to the subjects of backcountry development and sustainable management, maintains that some roads and permitted vehicles, such as shuttle vans, are needed to allow access by handicapped persons, even if the use of motorized vehicles is severely restricted for all others.

As it currently stands, the VCNP's managers have established fees for hiking certain logging roads that are served by shuttle busses within the Preserve's interior, both to provide controlled access to selected backcountry areas and raise revenue. At $30.00 per person in 2008, Dorothy Hoard (1273) called out this fee for being too costly given the quality of the experience provided. There are also concerns that fees meant to generate revenues in light of the Preserve's legislated mandate to achieve economic self-sufficiency might simultaneously contradict basic egalitarian principles for public land access. Richard Ford observes, "As you raise the cost you make it more of an elitist—and not a public—experience" (868). Additionally, he maintains, "You cannot have that thing set up so that only the rich can participate on a public land base" (Ford 893).

Respectful Access for Members of Traditional and Historic Communities

Dorothy Hoard (1276, 1278), Tom Jervis (1667), and Tom Ribe (3119), among others, do not have any substantive objections to the idea of the VCNP's managers providing affiliated traditional and historic communities with access to the Preserve and its resources for observance of traditional, small-scale activities. Craig Martin states, "It's just an important thing that should, especially in a place like that, where it is managed, and for, and by, many jurisdictions, I think traditional uses need to be maintained" (2592).

Nonetheless, Hoard (1278) feels that hunts need to be conducted within the guidelines of proper licenses. Tom Ribe stipulates that traditional users are not allowed the use of motor vehicles during their activities and insists that motor vehicles are not "traditional" (3119). Tom Jervis maintains that uses by traditional and historic community members do not deprive others of the use of the Nation's lands.

Teralene Foxx follows Jervis and argues for equal access writ large: "If you're going to buy [the Preserve] with public money, it should be public access and not confined just because of a certain ethnicity" (1081), such as Native American or Hispanic. She has "no problem with traditional people having access, but they shouldn't be the only ones" (1079). She asks, "Why are they more privileged than the rest of us?" (1080), and "Why am I paying my taxes and I'm not allowed to go in, but they can?" (1082). She adds that areas that are being closed off as part of sacred Native American lands could be just as sacred to her, and she decries the fact that she

does not have the same clout that a Native American has for maintaining access to certain landscapes (1009).

John Hogan (1505) observes that a practical challenge inherent in the idea to incorporate traditional and historic communities into the management of the VCNP is that some members of these groups feel that they have a "right" to be in the Valles Caldera to run livestock and hunt. While he understands that some community groups want to conduct educational activities that are specific to their communities, he feels that these programs cannot be founded on the principle of exclusivity. Instead, Hogan (1437) advocates that educational activities conducted within the Preserve need to be holistic and foster respect for cultural diversity.

Chris Judson discusses Bandelier's approach for interacting with neighboring tribal communities. She notes that the Monument has a committee to deal with tribal relations and was a pilot venue within the NPS system for implementing Native American Graves Protection and Repatriation Act (NAGPRA) protocols (1965). She reports that the Monument maintains a fair amount of scheduling flexibility (1963) and allows representatives of Affiliated Tribes to come to harvest specific resources needed for their traditional cultural practices. Tribes, however, are obligated to work with Monument staff to schedule and discuss their proposed activities in advance (Judson 1965).

Entrepreneurial Access

Timothy Johnson, a rancher from the Cuba area, and Peter Pino (4546), a member of the Pueblo of Zia, discuss the importance of managing the economic uses of the VCNP in a fair and balanced way. In response to the question about how he would change or improve the operation of the Valles ranching program, Johnson mentions the need for "fair access" for all different types of users (1795, 1800). Peter Pino feels that as a government agency, the VCNP "should see to it that everybody gets a chance to share the resources" (4546).

Several study participants (e.g., Dorothy Hoard 1261, Hilario Romero 5305-5307, Don Usner 3659, and Branden Willman-Kozimor 3870) call for the VCNP to reserve grazing permits for first use by local cattlemen (see *Ranching* in Chapter 9). In comparison, Gary Morton, a rancher from southeast New Mexico who has run cattle in the VCNP and would like to return

with a herd sometime in the future, states, "I question the fairness of eliminating anybody from the opportunity... to bid on [the VCNP grazing permit]" (2983).

Fred Vigil, a Hispanic resident from Medanales with an interest in again running a small number of cattle if he could obtain a federal permit for summer pasturage, and Porter Swentzell, from the Pueblo of Santa Clara, take a middle ground on the cattle permit eligibility issue. Although he feels that the VCNP could be an outlet to address some of the existing inequalities in the USFS permit process, Vigil supports the idea of a mix of local and nonlocal cattlemen that emphasizes fairness (5760). He does not favor granting exclusive privileges to either local ranchers or moneyed interests; however, he feels that local cattlemen potentially can contribute to the VCNP's grazing and educational programs through their knowledge of the Jemez Mountains' environment and traditional ranching practices in this setting. This knowledge, Vigil maintains, possesses values that should be acknowledged in the matrix of criteria used in awarding permits (5758, 5759; see also *Ranching* in Chapter 9). Swentzell (4666) believes that New Mexicans should receive priority above all other grazing lease applicants in general, with residents of the surrounding communities receiving first consideration in particular. If Jemez Mountains cattlemen are unable to field the permitted number of cattle, the pool of lessees can then be broadened to include nonlocal operators.

Roberto Valdez suggests that calls for a mix of local and nonlocal cattlemen "is like a Utopian ideal," (email to Kurt Anschuetz, September 4, 2013). Based on his experience, he does not think that such a program will work in the VCNP because the presence of outside cattlemen will only add a new layer of tension to what already exists among local operators. Drawing from his experiences on the north end of the Jemez Mountains (and not in the VCNP or the Jemez Valley area), Valdez continues

> Outside cattlemen have been rather rude and disrespectful... They lack... vested interest in a given geography where the non-local cattle are grazing beyond that they see the range is to benefit their cattle. They look at a given range as a commodity of profit and are more likely to be exploitative, jeer and belittle the local cattlemen at not fully exploiting everything, and take advantage of locals when they can. They have been more likely to plunder and move on. The basic philosophy that works is that locals, practicing some

kind of culture of local habitat, are more likely to practice sustainability. [Email to Kurt Anschuetz, September 4, 2013]

Don Usner (3665) recounts the year (2008) in which the highest bid for the VCNP's grazing permit was submitted by an environmental organization that had no intention of running cattle. The VCNP's managers rejected the bid on the basis that the application did not quality for further consideration because the proposal did not fulfill the Preserve's mandate to be a working ranch even though the environmental organization offered the largest economic return and smallest ecological impact. The VCNP instead awarded Gary Morton that year's grazing lease.

Usner (3665) reports that the VCNP lost local support for the managers' decision to exclude area ranchers that year. Alternatively, the Preserve could have made more revenue and relieved grazing pressure on the land the season by accepting the environmental organization's proposal.

Georgia Strickfaden would like to see the VCNP's managers to create an environment in which private enterprises can compete fairly with non-profit organizations and one another for the permits to bring and guide visitors to the Valles Caldera. She believes that there exists the potential for economically viable business opportunities (after 3397) to take people around the VCNP's backcountry in comfortable vehicles with self-composting toilets (3391). Strickfaden adds that these backcountry tours could be offered on weekly or monthly intervals to minimize impact on the environment (3263, 3391), while providing a scheduled service that would satisfy requests for backcountry access by visitors who either cannot—or do not want—to undertake long hikes.

Strickfaden feels that non-profit volunteer groups, which receive subsidies in the form of the VCNP's shuttle busses, have posed a barrier to access by for-profit area businesses (3255, 3256). She maintains that private entrepreneurs not only would provide the Preserve with a revenue stream through entry fees, they would allow the VCNP to reduce its expenses in operating its own shuttle fleet. Tour operators can also help relieve demands for VCNP staff time by providing educational and interpretive information (Strickfaden 3402), as well as crowd and vehicle management oversight, in accordance with the Preserve's policies and guidelines.

Advocacy and the Need for Advocates

> *If our young people don't have an opportunity to experience the outdoors in beautiful places like the Valles, how are they ever going to learn to and develop a sense of ownership or desire to see places like the Valles protected and enhanced and funded properly?* Greg Kendall (2422)

Prior discussion of the Preserve's cattle ranching programs, the many restrictions on recreational access, and the lack of business opportunities for local entrepreneurs reveals that many respondents view the VCNP as a poor neighbor. That is, participants share a general perception that the VCNP's managers characteristically ignore the needs of area residents and overlook valuable local expertise. As exemplified by Orlando Lucero (5107), some area residents also question how much the VCNP has even benefitted the area environment despite the many studies that have been undertaken.

These professed deficiencies have alienated people. This estrangement carries tangible consequences. Gilbert Sandoval, in response to a comment about the need for an advocate for placing people in the VCNP's forests, recognizes, "People are the engine behind the implementation of anything" (5472). Without a strong community of supporters, the likelihood that the VCNP can fulfill its obligations and goals is low.

Anthony Armijo states, "When it comes to selecting or building a program that will be inclusive of [the people of the Pueblo of Jemez] and other local communities, it is not forthcoming" (227). Drawing from his Pueblo's experience, he explains,

> One of the things that they have been using is that they need to be financially viable on a certain timeline in order to keep the management alive, and that has been superseding any other points of the legislation. We keep coming to the table year after year as the development of grazing management for that year comes about, that you're not only mandated to make it viable, but there's also equal mandate that you include local economies, local people...We come

to the table and tell them that year after year, but it's not successful as we've come and tried to get grazing benefit. [220]

Armijo (278) concludes with the recommendation that the VCNP's managers need to take into consideration the healthy system involving the environment, the ecosystem and the water issues, which will require the participation the Preserve's constituencies, including local communities.

Richard Ford (870) contends that the VCNP does not have an advocacy base. He states that the VCNP failed to build a local constituency because it practices exclusionary policies that make the Preserve "a playfield for the rich" (892).

Teralene Foxx (957) wanted to see the Valle Grande become a National Preserve and she was initial happy when the government bought the Baca Location. She has become disappointed with the VCNP, however. She believes that the VCNP's policymakers and managers are too overprotective of the VCNP (958). She finds it "irritating" that few members of the public are allowed into Valles Caldera unless they pay, despite the fact that they have already paid for the purchase and maintenance of the Preserve through their tax dollars.[95] She repeatedly expressed her dissatisfactions with the VCNP in regard to the topic of public access:

- "The biggest issue I have is that it is public lands being treated like private land by a few individuals" (960);
- "If it's going to be public land, it should be made public land" (961); and
- "They need to make it so it's accessible to people without having to pay, every time you went in, an exorbitant amount" (999).

Foxx (997) believes that the Preserve could have reduced the level of public disapproval and unhappiness had its managers accepted a proposed compromise to open a small area of the Valles Caldera landscape for personal exploration while maintaining severely restrictive access throughout the rest of Preserve.

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[95] Foxx (1004) recounts the time that she took her husband into the Valles Caldera while she was conducting a botanical study with a colleague. VCNP authorities fined her husband for being in the Preserve without a permit.

Foxx's estrangement from the Preserve is also rooted in her experience that the VCNP has often been dismissive of area residents who possess professional credentials and intimate knowledge of the Jemez Mountains' environment. She is unhappy that the VCNP has often brought in outsiders to conduct research within the Preserve without first asking local experts what had already been accomplished (959).

Georgia Strickfaden also decries what she perceives as the VCNP's lack of interest and respect toward area interests. She initially presumed that the Preserve's staff would be interested in using some of their existing knowledge about the Valles Caldera; however, in her experience, she feels that the VCNP would "not even recognize the fact that anybody in Los Alamos knows anything" (3235). She concludes that the VCNP has completely ignored the community of Los Alamos as a resource for local knowledge (3406).

John Hogan and Greg Kendall find that the VCNP's alienation of area residents is manifest by their declining involvement. This attrition is noteworthy because the Jemez Mountains' communities geographically and demographically represent the core of the potential pools of volunteers for programs designed to benefit the Preserve and participants in public outreach activities.

Hogan (1424-1426) finds that VCNP staff member are neither as accommodating nor communicative with educational groups and volunteer organizations as they are to moneyed interests. " They are not responsive...Now if I was going for a $10,000 bull elk permit, they might have called me back sooner" (1425). Hogan concludes that the VCNP has "missed" the fact that the Preserve is necessarily part of a "community thing" (1423).[96]

Kendall, who has a long history of volunteering with the VCNP, finds that the experience can often be frustrating because the staff members who interact with the public often exhibit a

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[96] Chris Judson observes that the VCNP's managers lack a sense of community relations: "Their thoughts are so much more insular" (1993).

> 'Let's do it ourselves' kind of attitude. 'We know what we're doing. We're the professionals.' We get that sense that they don't really want involvement of community-based groups to help out with these events. [2353]

Just as Hogan, Kendall (2355) thinks that it is difficult for volunteers, either as individuals and organizations, to receive answers to relevant questions from staff in timely fashion. Not only is this a practical problem, it is disrespectful of the volunteers who are contributing their time, labor, and resources, including knowledge and transportation. His frustration is palpable in his statement, "We don't have time to play cat and mouse with the staff" (Kendall 2356).

Views of the Enabling Legislation

> *[The VCNP] is an experiment that had a lot of promise, and I still think it could... but the window is closing... because public patience to support the experiment, as it's been configured so far, is ebbing.* Craig Allen (169)

For many of this study's participants, the VCNP lacks meaningful identity. Among some residents of traditional and historic rural communities on the Jemez Mountain's northeast and north flanks (e.g., Debbie and Charlie Carrillo, Anthony Moquino, and Fred Vigil), the VCNP is simply too far away geographically, economically, socially, and politically from their homes to possess much relevance in their landscapes under existing circumstances (Chapter 3). For others, questions about what the VCNP is—and should be—abound.

Issues of relevance are symptomatic, in large measure, of the Preserve's restrictiveness and history of poor outreach to its neighbors (see above). On the other hand, questions of the VCNP's purpose appear related to the enabling legislation requiring the Preserve to be a self-sufficient, working ranch that operates under policies established by a Board of Trustees composed of political appointees.

Bill Armstrong offers an illustration of the uncertainty that exists among the public concerning the VCNP's mission:

> Is it public land? The public can't go there. It's supposed to be a working ranch, but we don't want cows there. What is it supposed to be? I don't know. I know that it's unrealistic for it to make any money. [547]

Don Usner suggests that such confusion is an inevitable product of the legislation written authorizing the purchase of the Baca Location by the federal government: "It's conceived of in such a strange way... It's public land, but it has to be run as a private place despite the fact that it's public land" (3627).

Tom Jervis generally shares Usner's criticism:

> I think the Valles Caldera Act was a bad idea when it was formed, and it's still a bad idea. I'm working to change it because I think the management that they are trying to do is impossible. The premise of the management of that place is unrealistic in the extreme, and there is no way they can make that, as public lands. They cannot sustain that place doing the kinds of things they're doing. [1749]

Although Jervis conveys a conviction that solutions exist for the VCNP's fundamental problems and challenges, Craig Allen appears less optimistic. He thinks that the VCNP has so much potential because it is "a unique place" that many people are drawn to (189). Nonetheless, Allen (186) is unable to envision how the Preserve's difficulties might realistically be resolved under existing circumstances. To the point, he doubts that there is much interest in seeing the VCNP experiment succeed (Allen 117).

Orlando Lucero suggests that the flaws inherent in the enabling legislation are so great that "[t]he Valles Caldera should never have been bought" (5100). He believes that the architects of the statute enabling the federal government to purchase the Baca Location did not plan adequately for the Valle Caldera's long-term use. "They can't make money. They can't make ends meet... They're going to study it forever. What are they studying? Too much studying going on" (5100). In the meantime, the purposes for which the VCNP's mangers will apply the fruits of all of this study, as well as their envisioned use of the land itself, remain unclear.

VCNP as a Self-Sufficient Working Ranch

> *[I]t's never going to be self-sustaining.* Gilbert Sandoval (5452)

Anthony Armijo (277), Bill Armstrong (517), Richard Ford (869), Dorothy Hoard (1203), John Hogan (1531), Charles Keller (2125), Orlando Lucero (5149), Art Morrison (2702, 2836), Gary Morton (2953, 2976), Tom Ribe (3137), Hilario Romero (5300), Gilbert Sandoval (5452), Don Usner (3640, 3644), and Branden William Kozimor (3877) all express doubt that the VCNP can ever fulfill the legislated mandate to become self-sufficient as a working ranch. Some these respondents' more notable comments follow.

Tom Ribe discusses the practical obstacles that face the management of the VCNP. He feels that three issues were built into the VCNP's governing legislation by Senator Domenici, who was opposed to bringing more land under federal administration even as he was yielding to pressure by urban interests. Domenici, Ribe maintains, was influential in establishing the VCNP as a quasi-private land entity that

- lacked comprehensive land use planning;
- carried the mandate that it needed to become financially self-sufficient in 15 years; and
- was under the purview of a private sector board of nonprofessional trustees who were given management responsibilities (3137).

On the topic of Senator Domenici's role in defining the VCNP's legislative mandate, Gilbert Sandoval thinks Domenici based his provisions on the calculation that

> with that much land base, it should be self-sustaining, without a doubt. But he failed to see that there's an element that has come in that prevents you to practice the self-sustaining practices that are needed in order to maintain the land, to keep it productive, to bring in revenue. [5452]

Gary Morton adds that when Senator Domenici wrote up the legislation for the Preserve, he envisioned it as being a working ranch. When President Clinton named the members of the inaugural Board of Trustees, he created a fundamental conflict. That is, Morton feels that the

President named a Board dominated by scientists who wanted the Preserve to act as a "petri dish" for study without livestock. "There has been a culture built there that favors science...but it doesn't favor the cow very well" (Morton 2943).

Even if the interests of the original Board Members were not an issue, Morton indicates that the objective to operate the VCNP as a self-sufficient ranch was unrealistic:

> There is a terrible overhead and a lot of it is the government mandates. It's costing a little over four million dollars a year to run that place. You'll never have a working ranch that'll earn that. [2957]

Richard Ford contributes to the discussion with the observation that the VCNP's managers

> carry two burdens... [T]he first one is that they have to be self-sufficient within 15 years, which is impossible, and secondly, even with the appropriation they get, they have no advocate within the government, especially with Domenici retiring. We're now going to be dependent upon Bingaman and Udall to be the advocates for the Valles because they're not in the Forest Service. They're not in the BLM. They don't have [an] agency building them into their budget. [869]

As noted earlier, legislation requires the Preserve to be financially self-sufficient within 15 years. If not self-sufficient in 20 years, the Preserve goes to the USFS. Dorothy Hoard remarks, "There's a whole bunch of us who just can't wait" (1203).

Orlando Lucero, Art Morrison, Gary Morton believe that the VCNP could generate greater income per annum than it has to date if it was able to conduct its elk hunts more effectively. Morrison states that hunting is "a revenue generator. It doesn't help the Preserve as much as it needs, though..." (2685). O. Lucero (5112, 5148) and Morton (2958) feel that the VCNP could earn larger revenues from its hunting program than it has to date, just by culling its full quota of animals identified by the NMDGF. Morrison continues,

> As a pragmatic matter, I don't see how they're ever going to be...even increase their ability to be self-sustaining, unless they can capitalize on the remarkable wildlife that they have there. [2702]

For the VCNP to be more profitable with regard to its elk and responsible to area residents, Armijo (277), O. Lucero (after 5149), Morrison (2695), and Morton (2965) recognize that the VCNP's managers need to be directly in charge of all aspects of the Preserve's game hunts under market conditions. [97] Morton reports, "They say that under private hands, the [Baca Location's] elk hunt alone made over a million dollars" (2963).

The VCNP, as a federal agency, is not a private enterprise. Because the Preserve is public land, the State of New Mexico's Attorney General will not allow the VCNP's managers to realize that kind of profit (Morrison 2693, 2704; see also Morton 2964). Morrison (2703, 2705) relates, however, that in the opinion of the Office of General Counsel (OGC), the VCNP should be in charge of their own hunting and fishing permits, charging as if they were a private entity and making a profit as market conditions allow. Morrison and Morton recommend the VCNP's managers request action by the State of New Mexico Legislature to give the Preserve authorization to manage its hunts in a way that maximizes its revenue.

> If the Congressional intent was to have this be a self-sufficient, sustaining working ranch, well then, in order to do that, the entity that is managing it has to be able to manage it as though it was a private sector ranch. [Morrison 2696]

Despite his feelings that the VCNP could raise greater revenues, Morrison remains highly pessimistic that the Preserve can achieve financial independence. He states that he had many discussions regarding the purchase of the VCNP by the federal government and said at that time it would be "'mission impossible' for the Preserve to ever pay for its own way within the constraints imposed by the Law" (letter to Kurt Anschuetz, dated August 16, 2013). He thinks

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[97] The NMDGF administers all game animals and fish in the Valle Caldera and issues a prescribed number of hunting permits to the VCNP's managers, who then sell the certificates to sportsmen.

that there are many valuable scientific studies being conducted in the Valles Caldera, but he asks "how are all the good studies going to do anything to help the Valles Caldera be self-sustaining?" (2780). Morrison believes that even if law makers would "[d]ust off" the written OGC opinion on elk hunting and sell private hunts, build condos for rent, time shares, or even private purchase, only then *might* the Preserve be self-sustaining (letter to Kurt Anschuetz, dated August 16, 2013).

Morrison ultimately feels that the VCNP was never really designed to be self-sustaining, but the scope and content of the legislation authorizing its purchase by the federal government "was part of the political compromise" (2781). He describes the purchase as "a balancing act—a classic case of why the public lands are public, and how private lands become public because they can't sustain themselves" (2833).[98] Morrison (2837) concludes that no business geared towards ranching would have paid the 100 million dollars that the government paid to purchase the VCNP. He holds that ranchers in this region do not make money, except on land appreciation.

Board of Trustees

> *It would be nice if it was consistent.* Gary Morton (2945)

Among those who considered this topic in their commentaries, participants shared their most severe criticism for the Board of Trustees.[99] (Valles Caldera National Preserve 2005).

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[98] Morrison refers to the concept of "market failure," which he learned about during academic study in Wilderness Economics. This idea holds that lands become public holdings only after that have failed in the private sector (letter to Kurt Anschuetz, dated August 16, 2013). He adds that another difference between the private sector and public sector is that the private interest can do "anything" they want unless law or regulation prevents them. In comparison, public sector interests cannot do anything unless authorized by law or regulation.

[99] According to the Valles Caldera National Preserve,

> Under the Valles Caldera Preservation Act of 2000, nine members serve as the Valles Caldera Trust...Of these nine individuals, seven members are appointed by the President of the United States. Five of the seven must be

Although viewed as "decent people trying to do a good job" (Dorothy Hoard 1198), respondents perceive Board Members more as political appointees with agendas[100] rather than advisors who are (1) knowledgeable of the environment, people, and history of Jemez Mountains region, and (2) conversant in public lands. Richard Ford offers a representative opinion when he states that most Board Members "don't have the slightest idea what they're doing (894).

Craig Allen and Dorothy Hoard provide useful historical context about the inaugural Board of Trustees (2001-2003), which President William Jefferson Clinton appointed near the end of his term, and the second Board (2003-2005), which President George W. Bush named early in his tenure. Allen recalls,

> As a biased participant in the early years of the Preserve..., [the] initial Board was half Republican, half Democrat appointees, but they were all centrists. There were no bomb throwing ideologues in that group. If anything they were almost too cautious...that they didn't move fast enough. [170]

Hoard, who characterizes this Board's cautiousness as "conservative," effectively closed the Preserve to the public "to protect it" (1199), while the VCNP's staff conducted studies for the development of a comprehensive management plan. "All very noble, but [they] made everybody mad" (1199).

Allen (180) felt disappointment when President Bush named new members to the Board that had no vision for the VCNP. Hoard feels that the second Board threw out everything that the first Board had done, as it substituted a business plan, which she describes as "[o]ut to make money" (1200), for a management plan.

> residents of New Mexico. Members are selected for their expertise in defined areas and serve a four-year term. [2005a]

[100] Art Morrison, for example, states, that as a practical matter, with President Obama in the White House, Democrat members of New Mexico's Congressional delegation select the Trustees. He is certain that Senators Udall and Heinrich, in particular, would be supportive of candidates for the Board of Trustees who align with their position to have the NPS assume control of the VCNP (letter to Kurt Anschuetz, dated August 16, 2013).

Judging from the other participants' responses, the VCNP's first and second Boards of Trustees laid the foundations for lasting criticism. Three issues predominate. First, the Preserve has largely been closed to public since its purchase. This topic has already been thoroughly addressed in various contexts in prior discussions (e.g., see Chapter 9). As such, it will not be considered further here.

Second, participants feel that the concern for financial self-sufficiency has overshadowed all other issues, including those related to the Preserve's operation and building of meaningful relationships with local communities. For example, Anthony Armijo states,

> It seems that the last two or three years, as the Board has changed, the focus has changed to be mostly consumed by the concerns for economic viability, and none of these other local interests. [225]

Third, there has been little consistency in the day-to-day operation of the Preserve, which has resulted in stakeholders continually having to redirect their efforts (Anthony Armijo 251.) Speaking in 2008, Hoard (1200) maintains that the Board of Trustees still do not have a management plan after eight years, adding that a business plan is neither a necessary nor adequate substitute for a management plan. Orlando Lucero feels that each new Broad Member feels compelled to mark their territory in their own image, describing the prevailing attribute as, "'I'm running the show now'" (5135).

Drawing from his experience as a member of several organizations that have worked with the VCNP's managers in various capacities over the years, Greg Kendall explains the problems resulting from continual changes in the Preserve's operational policies and guidelines:

> One problem we have with the Trust is that the turnover of the Trust is constant and direction seems to change almost constantly, so it's difficult for outside organizations to feel like they have a comfort level with what's going on. [2382]
>
> ... [W]e run into these changes that are contemplated and they're very different from what we had been expecting from the past. We walk into a meeting and we're told 'This is the route we're going now.' We look at each

> other like 'Where...were we? What's going on?' Where did this all come from that you're going to change the very foundation of what your plans are in an instant? [2385]

Dorothy Hoard concludes that in its current institutional formulation, the Board of Trustees is "a setup that, in my opinion, can't work" (1295). She explains her opinion by noting political appointees who introduce conflicting values and viewpoints dominate the Board (1295), which is organizationally not responsible to any office other than that of the Secretary of Agriculture (1201). In Hoard's view, the Secretary is too preoccupied with other matters to afford the Preserve, which is small and remote, the oversight it needs.

John Hogan adds,

> The political nature of it is, to me, almost insurmountable in the long run. How do you overcome that as the political tides shift, the administrations change...? [1432]

Besides failing to provide a cohesive policy framework, participants fault the Board of Trustees for its antagonistic relations with the VCNP's staff (e.g., Dorothy Hoard 1202). Speaking of his interactions with the Preserve's range and technical staff members, who he considers to be capable of doing "a good job" (5179), Orlando Lucero feels that the Board often interferes and is "an impediment" (5108).

A number of respondents (e.g., Dorothy Hoard 1198; John Hogan 1432; Richard Ford 895; Tom Jervis 1750; Orlando Lucero 5108, 5124; Tom Ribe 3138; Branden Willman-Kozimor 3880) recommend replacing the Board of Trustees with professional managers who will allow the Preserve's staff to develop and implement a cohesive management plan. Hoard (1294) notes that for staff to be effective in fulfilling their duties, they need the Board to delegate responsibility and authority, as well as to develop policies that have public support.

O. Lucero emphasizes that staff needs the time necessary to establish programs authorized by the management plan: "Don't just give him six months, give him two or three years..." (5114). Willman-Kozimor suggests further that the Preserve's management might be more effective if it was

> more bottom up and less top down. If the staff and the people on the ground had more say in policy making and the direction for the future...that would be important. [3880]

Drawing from his experience serving on the Board of Education for the Jemez Valley Public Schools, O. Lucero advises a reduction in the size of the Board, saying that at nine members, it is simply too big to be workable. "Everybody has a different agenda, so nothing will happen" (5108).

O. Lucero (5133, 5145) and Willman-Kozimor (3881) also call for greater representation of area residents, who have intimate knowledge of the Jemez Mountains' environment, people, and history, on the Board of Trustees. Although the VCNP Board of Trustees has always included one or two standing members from Jemez Mountain communities throughout its history,[101] the O. Lucero's and Willman-Kozimor's remarks are informed by a general sentiment expressed by other participants: the Board is not trustworthy (see below). O. Lucero and Willman-Kozimor appear to suggest that the Board might be more dependable and steadfast if more of their neighbors were participants in framing the VCNP's policies.

Addressing the issue of the Board's trustworthiness directly, Greg Kendall shares a representative judgement: "I would say in general that there is a level of distrust with the [VCNP] Trust in Los Alamos" (2505). For some participants, the Board's failure to maintain a semblance of continuity and reliability implementing management policies has proven to be an insurmountable barrier to building meaningful relationships with area communities based on trust and respect (after Gregory Cajete 3932). Kendall still bristles at the memory of a public meeting when a Board Member responded to repeated requests for greater recreational access to

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[101] Jemez Mountains residents who have, or are currently serving on the Board of Trustees include: Stephen Stoddard (Los Alamos, 2001-2003); David R. Yepa (Pueblo of Jemez, 2001-2005); Dr. Raymond Loretto (Pueblo of Jemez, 2005-2013); and Virgil Trujillo (Abiquiu, 2005-2013) (Valles Caldera National Preserve 2005b).

the Valles Caldera by saying, "You want to do these things? Go do them somewhere else" (2348).[102]

For other respondents, the issue of trust rests on the need for the Board to practice greater transparency in how it develops policy (e.g., Tom Jervis 1751, 1752, 1755). Jervis feels that the Board has been "secretive from the very beginning" (1754), because it was afraid of allowing public opinion sway them in their deliberations. Since these first years, however, Jervis (1753) believes that the Board Members have given into the temptation to run the VCNP as a private ranch, in which they can do whatever they want.

Relations with Affiliated Tribes

> *That's one of our frustrations. One of our disappointments is that we have not been able to receive very much benefit from this acquisition, but the Jemez Pueblo was very supportive of the acquisition of this land.* Anthony Armijo (216)

Anthony Armijo (214, 218) reports that his community, the Pueblo of Jemez, supported the federal government's acquisition of the Valles Caldera for the hope of access to the Preserve's pasture lands, as well as for cultural-historical reasons important to members of his Pueblo. He stresses that "grazing is just one aspect of our interest" (214). Armijo (218) notes, however, that his community is disappointed from the general lack of access that has materialized. He professes that, as an individual member of the Pueblo of Jemez, he would like the opportunity someday to have access to the Valles Caldera to harvest aspen logs that he needs to make his community's traditional drums (363).

Armijo (221) notes that the VCNP's Executive Director maintains direct dialogue with Jemez Pueblo's Governor's Office, and these administrative leaders have periodic meetings over the year. He also reports that a community member, Dr. Raymond Loretto (2005-2013), was

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[102] In the aftermath of this impolite rebuke, Kendall recalls, "I even wanted to make some t-shirts that had the Nike symbol upside down, and said 'Just go do it... somewhere else" (2349).

currently serving on the Board of Trustees under the appointment of President Bush. Armijo maintains that Dr. Loretto broadly represents the interests of all the tribes that maintain affiliations with the Valles Caldera, not just those of Jemez Pueblo (Armijo 223).

Armijo (226) shares that the VCNP has invited his Pueblo to apply for grazing rights every year. Jemez Pueblo's ranchers contributed 225 cattle in 2005 and 2006, as part of a consortium of small-time operators (242, 243). He relates that the VCNP's managers had wanted the Pueblo to bring 500 head; however, the community's 50 cattlemen could not muster a herd of this size (229, 241). The balance of the permitted herd was supplied by 2 or 3 operators who were unrelated to the Pueblo (Armijo 245).

Armijo speaks favorably of this experience. He notes that VCNP invited the Pueblo's ranchers to specify the kind of bull they wanted for their cow-calf operation (246). The ranchers selected superior quality bulls that would help improve their herds (255). As part of the contract, the VCNP required the Pueblo's cattlemen to vaccinate the livestock that they wanted to run on in the Preserve (244).

Armijo views the VCNP's ranching program as being a potentially important resource to his community as a whole because his community's cattlemen were able to get their livestock off the Pueblo's lands so the pasturage could rest (247). The Pueblo, in turn, had the opportunity to make improvements on the land; Armijo observes that land became more productive and diverse land during this interval (258).

Armijo mentions that the Preserve's ranching program puts his community's ranchers at a competitive disadvantage in the permitting process when the Valle Caldera's managers have decided to issue a single permit for the entire grazing season. He explains,

> We can't match the 2,000 cattle numbers that might have a higher score because they would bring in more revenue... There's a favoritism to bring in heifers or steers... because they're easier to manage...as opposed to the cow calf operations that we operate. [228]

Armijo concludes,

> With respect to cattle management, [Jemez Pueblo] would definitely like to be a part of the picture. We know that we can be a player, and not the only player. [253]
>
> I would propose that we continue to be allowed to utilize the Valles Caldera grass resources, in a stewardship capacity, as a grass bank so that our lands can rest... [257]

Armijo (229) feels that the Jemez Pueblo needs to maintain its relationship with the VCNP, despite the level of effort required, for reasons other than grazing. Although he was unwilling to discuss particulars, he allowed it that is very important for his Pueblo to coordinate with the VCNP to make sure the Jemez Pueblo people are able to sustain their traditional relationships with the Valles Caldera (308). He reports that members of his community have had to scramble to meet with VCNP staff at times to make sure that certain cultural activities can take place in accordance with the Pueblo's traditions, while avoiding conflicts with the VCNP's scheduled recreational activities (309). He notes that all of the parties have to make compromises to make things work out.

Armijo (314) adds that it is in his Pueblo's best interest to sustain the relationship with the VCNP with regard to water and watershed issues. He points out that because the water that flows down the Jemez River is essential to his community livelihood, the Jemez people have advised the VCNP's managers that they want the Preserve to operate as a healthy watershed for the region (319). As such, Jemez Pueblo would like to see the VCNP's managers thin the Valles Caldera's forested tracts so snow can reach the forest floor. Armijo (320) explains that if moisture can percolate into the ground as snow melts, then it can help sustain the watershed.

Armijo (347) shares that many aspects of his Pueblo's traditional relationships with the Jemez Mountains, including the Valles Caldera, have suffered under the patterns of property ownership and administration imposed on the landscape since the colonization of the region at the end of the sixteenth century. Armijo (348) is mindful that federal agencies fear that if they engage the Pueblo of Jemez Pueblo closely, then it will be seen as favoritism by all of the other communities in the region. Nonetheless, he feels that because the Jemez Pueblo has been the

foremost occupant of the area since time immemorial, it is incumbent upon the federal government to consider his community first (349).

In response to a question concerning whether the Pueblo of Zia has a meaningful relationship with the VCNP, Peter Pino answered, "Not really" (4538). He adds that even though Zia Pueblo has important places in the Valles Caldera and has negotiated with the VCNP's managers for limited access so the Pueblo can practice some of it sensitive cultural activities, ritual leaders often find it easier to simply go "to White Mesa[103] instead of Redondo Peak...because the process [to obtain the necessary approvals] is so cumbersome" (4538), if not also disrespectful and invasive.[104] Pino (4539) would like for his community to have an access key and a waiver from the requirement of having to report visits involving sensitive cultural practices and privileged traditional knowledge. Such an arrangement, however, would first require mutual respect and trust, two qualities that Pino does not use to describe his Pueblo's current relationship with the VCNP.

Pino (4537) also talks about the seat on the VCNP's Board of Trustees, which is dedicated for Native American representation. He acknowledges that two individuals from Jemez Pueblo have continuously held the position since the Board's inception 13 years ago. Pino believes that the position should be filled on a rotating basis among all of the area's Tribes. Through the participation of the other Tribes, Pino feels that a more representative viewpoint might be obtained.

The VCNP, according to Gregory Cajete, "has personal meaning based on the interactions [Pueblo people] had with each other as they interacted and worked in the Valle Grande" (3962). He shares that his community, the Pueblo of Santa Clara, maintains a relationship with the VCNP, and people obtain access to the Preserve for certain cultural purposes. He adds, however, there really has not been "very much contact" (3931). The most

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[103] White Mesa, which is located on the Pueblo on the opposite side of U.S. Highway 550 west of the present-day settlement of Zia Pueblo, is a surrogate location for Redondo Peak.

[104] VCNP staff members often ask questions about the purpose of a proposed visit. If involving sensitive cultural practices and privileged traditional knowledge, such questions are considered intrusive.

intensive interaction occurred when Santa Clara was working to reacquire the upper watershed of the Santa Clara Canyon at the time that the U.S. was negotiating with the Dunigan Estate for the purchase of the Baca Location back in the late 1990s.

Anthony Moquino (4282) acknowledges that the Valles Caldera is a special place for many communities, including Ohkay Owingeh, that have relationships with Tsikumu[105] (also known as Chicoma Peak by residents of historic Hispanic communities), situated at the Preserve's northeast corner. Moquino, a secular community member, has only seen the Valle Grande from State Road 4; he has not yet visited the Preserve unlike some of the ritual practitioners from his Pueblo (4281). For example, one of Moquino's uncles was a Holy Person, who visited the Valles Caldera (4280). He shared some stories about this landscape. Moquino concedes that most of his knowledge of the Valles Caldera derives from his own research and reading. He describes his particular understanding as a "science perspective" rather than the "traditional perspective" of his Pueblo's Holy People (4280).

Moquino is aware that the anthropologist John Peabody Harrington (1916) wrote a century ago that members of Ohkay Owingeh would visit the Valles Caldera area to obtain *piki* (griddle) stones, gather plants, and collect obsidian and other minerals (4285). He believes that some people from Ohkay Owingeh would be interested in inspecting and possibly using the *piki* quarry, provided that it is within the Preserve's boundary (4283).

Louie Hena states his understanding that the purchase of the Baca Location by the federal government was to have resulted in providing people from neighboring Native communities access opportunities to a place of cultural importance within their cultural landscapes. In practice, however, the VCNP's managers continue "to keep people out" (4215). Hena describes this situation as another instance of "preservation versus management." In the present context, *preservation* involves excluding people from a landscape to protect it from possible disturbance; *management* means working with people to develop and maintain sustainable ways for them to

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[105] As reported by Alfonso Ortiz (1969), the renowned Tewa Anthropologist, Tiskumu is the Mountain of the West for Ohkay Owingeh.

interact with the environment (after Hena 4215). Additionally, to Hena, preservation refers to the past, not a living process.[106]

Speaking as an individual member of the Pueblo of Santa Clara, Tito Naranjo (4423) recommends that the VCNP's managers adopt policies allowing Native People to go in and out of the Preserve as they need for their traditional cultural purposes. He shares that *osha*,[107] a medicinal plant typically harvested in June, grows around the edges of the Valle Grande where the ground is not too boggy. The Valle "is so rich with *osha* and that...all the...Pueblo people...should be allowed to go in whenever they have a need..." (4377). He adds that the Medicine Society not only is "alive and well" at Santa Clara Pueblo, its members need *osha* "all the time" (4377).

Naranjo (4378) explains further traditional practitioners from the Pueblo's Bear Society require yellow ocher and red ocher, as well as obsidian. All of these minerals occur in the Valles Caldera. Naranjo is also aware that *piki* stone resources occur in the area of the Santa Clara Canyon's headwaters near the northeast corner of the VCNP.

Porter Swentzell (4650) reports that he has driven through the Valle Grande many times along State Road 4 on his way to and from his family's property near Cuba on the west side of the Jemez Mountains. He visited the VCNP when he was working at a guide at Puye, one of Santa Clara Pueblo's major early homes, to learn about how the Preserve is managed. He speaks of learning about how the VCNP has regulated access and use, as well as the Preserve's challenges in maintaining fences, etc. (Swentzell 4650).

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[106] Hena is familiar with a statement that another member from his Pueblo made in regard to the problems inherent in the preservation concept: "You preserve pickles, not people" (Hena 4216; also see Anschuetz 2000). Tito Naranjo adds, "Let our culture live, because we're not dead. We're alive, and we're still doing what people in the past were doing" (4392).

[107] *Osha* (a.k.a. Colorado cough root and Indian parsley [*Ligusticum porteri*]) is a popular item among the region's traditional Native American and Hispanic communities (Ford 1975:Appendix E, 101; Moore 1979:119-121; see also Dunmire and Tierney 1995:43). People apply ground root to cuts, chew pieces of root for stomach ailments, and carry pieces of root in their pockets or medicine bags as a charm to protect them from encounters with snakes.

When asked about his hopes for what the VCNP might become in the future, Swentzell (4653) responds in terms of how the Valles Caldera was traditionally regarded by Santa Clara's members, as well as by the region's indigenous peoples. He notes that the custom is that nobody claimed ownership of the Valles Caldera. Also, the people of each community showed respect for the citizenry of other communities when they visited the Valles Caldera for their own purposes, given that culturally diverse people from across the region would go to the Valles to gather resources and offer blessings. The tradition was to be deferential and show respect.

Continuing, Swentzell allows that the Valles Caldera was restricted landscape, not because of private ownership or resource management concerns, but because this landscape is a place of great power that requires humility and respect on the part of its visitors. Not everyone from Santa Clara Pueblo (or any other community for that matter) could go into the Valles Caldera. Usually, men alone would go to the Valles to hunt, gather resources, or make pilgrimages.

Swentzell confesses, "I get afraid when I think of it becoming highly developed... It's always been sort of an area that was 'off limits' in the traditional sense" (4653). He does not want the Valles Caldera to become a "Yellowstone National Park," with bumper-to-bumper traffic. "There should be restrictions" (4653), just as there should also be access.

Swentzell (4659) thinks that Tribes should be allowed access without having to request permission, especially when the purpose of a visit is for traditional cultural activities involving privileged knowledge. He advocates further that Tribes should be allowed to gather the resources needed for sensitive cultural observances without having to prepare a permit application detailing what people will do during their visit and when they will do it. Swentzell (4659) points out that this knowledge is privileged among individuals who are initiated into particular societies even within the communities. Secular people within his Pueblo, for example, are not supposed to know about such things, let alone some outside land manager.

Swentzell (4660) points out that the issuance of such permission has to be predicated on respect on the part of the VCNP's managers. The Tribes, in return, have to show the Preserve the respect it is due by fulfilling their respective obligations to ensure that their privileges will not be misused.

Swentzell raised an additional issue in his comments. He expresses uncertainty whether consultations concerning the identification, documentation, evaluation, and management of TCPs, such as the Valles Caldera, fulfill their legislated mandates (4672). According to Swentzell, community consultations characteristically are bureaucratic in their approach and limited in their conduct. While he does not believe that affiliated communities are excluded from the consultation process entirely any more, he remains unsure if the information that affiliated communities share in these proceedings is accorded the respectful consideration that it deserves (Swentzell 4672).

Relations with Neighboring Hispanic Communities

> *One of the main reasons that they bought that [land] was to help the surrounding areas and the surrounding National Forest, and they haven't.*
> Orlando Lucero (5105)

Orlando Lucero's remark appears representative of Hispanic residents of the Jemez Valley whose families have ranching ties to the Valles Caldera landscape over time. While cattle operators, such as the Lucero Brothers, eye the Valles Caldera's verdant pasturage, economic ties with the VCNP are not the exclusive concern. O. Lucero explains, "[T]he Hispanic/Chicano communities are very tight and very oriented to their land" (5138).

Roberto Valdez (5549), through his M.A. thesis research and recent employment at the University of New Mexico has documented the place-name traditions of his homeland and entered these data into Geographic Information Systems (GIS) computer technologies. His work shows the connections that many local traditional Hispanic community members maintain with the Jemez Mountains region, including the Valles Caldera. Talking about the cultural-historical affiliation of some Hispanic families, including his own, with the Valles Caldera, Valdez questions whether there is fairness in how the VCNP's managers interact with local Hispanic residents in comparison to members of recognized affiliated Native American Tribes (5548, 5550, 5597). "We're considered the conquering European, non-privileged race, and, therefore, we don't have any native privileges" (5549).

Valdez's critique has two elements. First, he is frustrated by the fact that he and his family members, as examples of area Hispanic residents who have direct historical ties to the Valles Caldera through known ancestors, have few opportunities to visit places remembered in their histories. That is, access is restricted to certain places and/or to special dates. Second, to obtain access to areas of the Valles Caldera that currently are open to the general public, Valdez objects to having to pay entrance fees. He states,

> The Valles Caldera has proven to be just as difficult to deal with as the Dunigans, because I don't think that it is fair to charge a person with heritage there just to see what originally belonged to them. [5544]

Because he and his family have such interest to know more about what his relatives saw and time in the Valles Caldera, Valdez has felt compelled to trespass upon occasion to take pictures. He also has shared his experiences with his grandmother, uncles, and other family members (5552, 5553; see also *Heritage Resources* in Chapter 9).

Valdez has talked with various low-level agents of the VCNP. He shares that they have told him about the rules, restricted areas, and special dates or events that apply to restricted areas or corridors. Few, if any, of these opportunities, however, allow Valdez opportunities to inspect areas important in his family's history.

He admits that he has not yet tried contacting higher-level managers VCNP about access to see some backcountry areas. Instead, Valdez has trespassed to see what he and family are otherwise denied. "I thought it was my duty, as incredible as it sounds, to break in and to see what was in there" (5549). He also retells an old saying, "It's easier to ask for forgiveness than it is for permission sometimes" (5553).

Valdez explains his reasoning further with an explicit and passionate focus on the importance of the need to remember and honor his family's culture history:

> When I deal with any agent, uniformed or in civilian clothing, they tell me about the restricted places and the permitted places. To work through the bureaucracy with e-mails, telephone calls and travel to meet someone, just to see areas that my ancestors lived, traveled or worked at, is time misspent and

> costly to one of low income. The time could have been spent more productively seeing other places my relatives know. I believe there is something innately objectionable to wanting to see the land your ancestors trod and being stonewalled by bureaucracy that does not seem to know about a person having a direct connection to a place. There seems to be no provision, other than my reference to the Northern Rio Grande Heritage Area, to the traditional Hispano having an elevated cultural status like members of the various Pueblos. All they know is a dehumanizing approach based on standardized legalisms and this approach does not allow agents of any federally managed real estate to either conceptualize or make decisions with an understanding that the traditional New Mexico Hispano is a product of the land and maintains that connection by engaging in activities beyond authorized or prescribed recreational activities. Furthermore, what others call *trespass* is to many of us, a way of life. [Email to Kurt Anschuetz, September 2, 2013, emphasis added]

Valdez would like for the VCNP's managers to recognize the importance of the cultural-historical affiliation that some traditional Hispanic residents maintain with the Valles Caldera, which parallels the acknowledgement already afforded to Native American tribal members. He concedes that Hispanic residents requesting such recognition would need to demonstrate their ties; Valdez (5597) does not believe that a person's possession of a Hispanic surname would be a sufficient criterion.

The VCNP is simply too far removed geographically, economically, socially, and politically from Abiquiu to possess relevance to Debbie Carrillo. Despite the fact her cousin, Virgil Trujillo, is currently seated on the VCNP's Board of Trustees (2005-2013), she confesses that she never thinks of the Valles Caldera (D. Carrillo 4806). It is not where her mind is; it is not part of her home and family.

Liability Insurance

Many participants have called for the creation of greater opportunities by which volunteers, either as individuals or participants in an educational or sweat equity program

throughout their commentaries, could perform needed services for the VCNP. Several respondents (e.g., Gary Morton 2995; Don Usner 3649) noted that the VCNP is separate from other federal agencies, such as the NPS and USFS, and has to provide its own liability insurance, which is expensive. The insurance requirement, therefore, can potentially pose an effective obstacle to the VCNP becoming more accessible to the public for a broader range of activities, including some that could be of direct material benefit to the Preserve itself.

Morton relates his experience obtaining insurance coverage for his ranching operation on the VCNP during the 2008 grazing season:

> The insurance that they required us to have as part of our contract was outrageous. In fact, I talked to about seven people before I found anyone who was willing to write it, and then when I found someone willing to write it, I just paid what they wanted. There's no bargaining in this scenario. [2996]

Usner steadfastly maintains that insurance coverage "shouldn't be an obstacle to people being able to go out there" (3650). He recommends that the VCNP's managers explore ways to list the Preserve in "the Government insurance pool—whatever that takes..." (3650).

CHAPTER 13
TRADITIONAL USES OF THE JEMEZ MOUNTAINS

Fuel Wood

> *It's something that you know that you're going to need, and you never have quite enough of it anyway... There was a stock piling of wood, that was always going on.* Gregory Cajete (3910)

The Jemez Mountains were—and continue to be—a principal area for fuel wood among the region's traditional Native American and Hispanic communities. There have been notable changes in the people's patterns of firewood procurement and consumption since World War II, however. The greatest changes are linked to the fact that fewer families now are dependent on fuel wood given the success of governmental programs to extend electrical service infrastructure into rural areas and the widespread availability of propane for home heating. The ubiquity of pickup trucks and chainsaws have also made it possible for woodcutters to travel farther to favored tree stands and to cut wood faster than it was in the past. These technological changes, in combination with the in-movement of comparatively wealthier people into Albuquerque, Santa Fe, and Los Alamos who can afford decorative fireplaces in their homes, helped create and sustain an urban market for firewood.

Although a survey was not completed during the interviews, it seems likely that most of this study's participants burn firewood in either decorative fireplaces or wood burning stoves at least on an occasional basis. Roberto Valdez (5566, email to Kurt Anschuetz, September 2, 2013), who converted the gas heater in his Espanola residence to wood in recent years, depends on fuel wood as the primary source of heat for heating his home, relying on natural gas as backup for nighttime freeze protection. Peter Pino's family apparently uses a considerable amount of fuel wood, although they are not exclusively dependent on it (after Pino 4480, 4486).

All respondents, who grew up in rural Native American and Hispanic communities on the edges of north-central New Mexico's mountain forests, come from families that depended heavily on firewood for heating and cooking.[108] Hilario Romero (5245, see also below) operated a small woodcutting business back in the late 1960s and early 1970s while he was in college.

Gregory Cajete recalls, "Up until just relatively recently, most of the Pueblo communities depended on wood for...keeping warm and for cooking, and these kinds of things" (3896) because electric and gas utility lines were not extended into Santa Clara Pueblo until about the late 1950s. Smaller quantities of wood were also needed in starting pottery kiln fires, even though most potters used animal dung as their primary fuel (3908).

Given its importance, "Everyone had interaction with wood" (3900). He adds that his family, just as the others in his community, would start gathering wood no later than October for the coming winter.

Cajete remembers that the people still largely relied on hand saws while he was still young; "a premium" was placed on "good tools" for activities upon which they depended (3901). He explains that families initially budgeted and saved to buy quality saws and axes, just as they were to do to purchase chainsaws and pickup trucks when they had the means (3901, 3902). People would keep their wood-cutting tools sharp and well maintained because they needed to cut large quantities of firewood into appropriately-sized pieces for transport home.

Cajete (3900) reports that most of his community's woodcutting took place on Santa Clara Pueblo Reservation land in the "open plains" forming the lower Jemez Mountains' foothills. There is a diversity of favored wood types, including piñon, juniper and ponderosa, in this setting. He maintains, "A mixture is the most advantageous" (39067). For example, juniper retains sap, is a quick starting fuel wood, and burns hot (3907). Juniper has "that kind of skin" (3906), which people favored for kindling fires. In comparison, piñon burns longer.

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[108] The list includes Gregory Cajete, Debbie Carrillo, Louie Hena, Orlando and Fred Lucero, Anthony Moquino, Tito Naranjo, Peter Pino, Hilario Romero, Gilbert Sandoval, Porter Swentzell, Roberto Valdez, and Fred Vigil.

Anytime people went into the Jemez Mountains, they would "always" gather wood (Cajete 3910). Cattlemen would harvest wood when they tended their cattle. People would always carry wood back when they went out to gather plants.

Cajete's family also gathered wood along the river, "but that kind of wood [cottonwood?] doesn't burn as well" and "doesn't have the same kind of heat-giving capacity as piñon and juniper... and ponderosa. The mountain woods are much better for fire" (3897).

Cajete (3898) recounts that people formerly carried wood using wagons. Families formerly sometimes would camp for a day or two to "pick wood."

While he was growing up, few families yet owned pickup trucks, but there were enough of these vehicles that the need for overnight camps was already in decline. People borrowed vehicles from other family members, or they would accompany other families, which had trucks, "and borrow some of their 'dead space' for your wood" (3898). People also harvested fuel wood to maximize their use of the space in their pickup trucks whenever they went into the mountains (3910).

Because people knew the locations of the wood cutting stands, there was no need to search for stands of suitable fuel wood. If people needed *vigas* (large timbers used as principal roof beams) for building a house, individuals first would go into the Jemez Mountains foothills to find suitable ponderosa pine trees (Cajete 3898).

In response to a question about his family's criteria for selecting fuel wood, Cajete replied, "For us, it was really just the dead and down trees. You didn't want the green wood because it would take at least a year to dry out properly" (3899). Until it was dry, green wood is smoky.

Cajete shares observations that other participants (see below) similarly recall from their activities as children in assisting their families harvest fuel wood: "The kindling was avidly gathered" (3905), and "Primarily kindling and small pieces that were easily chopped and could

be used in the stoves that we used in those days" (3899).[109] He notes that there is much less emphasis on kindling and other small wood since electric and gas stoves have become available. The widespread use of chainsaws has also rendered the participation of young children in woodcutting expeditions less desirable.

Anthony Moquino (4250) remembers that there was no indoor plumbing in his community, Ohkay Owingeh, until 1959. The people depended on wood stoves for heat and cooking. By helping his family, which would partner up with another family during these outings, Moquino not only learned where the good wood stands are in the Jemez Mountains, the many stories told during these outings taught him much about the environment and his community's traditional and historical relationship with this landscape (4252). He also learned that Forest Service wood permits were needed (4250).

Peter Pino (4476) similarly talks about the Pueblo of Zia's traditional reliance on firewood. Many of his recollections resemble those shared by Gregory Cajete and Anthony Moquino. Pino, contributes several different insights, however.

According to Pino, Pueblo people traditionally harvested the deadwood from the forest near their homes. He explains,

> The longer you stayed [in one place], the less and less deadwood you'd have [nearby], and that circle kept getting bigger and bigger to be able to provide firewood for the community. It removed the fuel and kept healthy trees healthy. [4492]

He also recalls that while he was growing up, the men from the Pueblo would form work parties to gather firewood for home use and for special needs, such as an initiation or a wedding (Pino 4479). He adds that the men of his community prefer loading dead tree trunks onto their pickup trucks for transport home for chopping rather than blocking the logs into smaller pieces while in the field. By chopping and splitting the wood at home rather than in the forest, the families would have plenty of bark and splinters to use for kindling (4486).

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[109] Cajete (3899) explains further that the old-style wood stoves had small fireboxes.

Pino shares background into his community's traditional preference for using only dead wood for fuel:

> Everything is in the circle; there's a beginning...and the circle gets completed...One of the circles is the life of the tree. [4478]
>
> A seed, it grows, matures, ages, and then dies. Once it dies, then that's the time to take [it] because it's outlived its usefulness in that way [as a tree], but it's still useful for you..., to give you warmth, protection. [4487]

Pino reports that deadwood is easier to chop with an ax than to cut with a chainsaw. He shares, "In 1981, I was appointed as Lt. War Chief. I always remember one of the things that I advised the people" (4480) was to use axes. Despite his efforts, he notes that few people still use an axe today because they find that is easier to use a chainsaw and to cut live trees (4481). Nonetheless, Pino continues to chop deadwood by hand. He explains that chainsaws do not make splinters, which are needed for kindling (4480). Pino adds that because green wood does not burn well and is smoky because it is wet, women do not like to use it for cooking.

Porter Swentzell talks about how his family would cut standing dead trees in Santa Clara Canyon. They characteristically felled trees in ways that were not necessarily the most convenient for them during their labors (4599). Their purpose, however, was to minimize damage to young trees that were already growing.[110] Family members would then take downed branches and place them around small, young trees to help them trap water, hold the soil, or sometimes serve as windbreaks (4598). They also filled arroyos with branches to help stop downcutting erosion.

Sometimes they would cut and load large tree trunks, in the traditional way of the people of his community, Santa Clara Pueblo (4596). Usually, however, his family would block the wood directly on site because their vehicle, a 1952 Willy's pickup truck, had such a small bed

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[110] Swentzell says that he is unsure if this practice to protect the next generation of trees was widespread in his community, but it was part of the permacultural ethic that his mother taught him.

and they needed to maximize its space. Swentzell (4596) "grew up" using the family's old chainsaw because blocking the wood was one of his chores.

Swentzell (4597) shares that his family also harvested branches for kindling, even blocking 3-inch-diameter branches to fill the holes among the stacked log sections. Most people today, Swentzell observes, just take the trunks and larger branches of the trees that they cut, leaving the smaller branches behind as waste. He describes the harvesting of dead tree branches as "part of the process of caring for the forest in a way that's not so obvious" (4595). The removal of the dead branches helps protect the trees from ground fires.

Debbie Carrillo's maternal grandmother could not drive; nonetheless she owned a pickup truck for hauling wood and other large cargos. She would get someone to drive up the mesa to Vallecitos, near the south margin of the Town of Abiquiu Land Grant, so she could gather wood several times each summer (D. Carrillo 4697). The family needed this wood to heat the family home over the winter use.

D. Carrillo (4728) states that the family almost always used piñon wood for heating use. She maintains that ponderosa wood burns four times faster than piñon (4730). Regardless, ponderosa pine is now favored by many woodcutters who sell wood because it is more accessible by truck.

She considers juniper, which burns clean and hot, as great for firing her traditional micaceous pottery (4730). The wood yields a copper color and burns cleanly. D. Carrillo notes that piñon wood can also be used for pottery firing, although it needs to be thinly split and potters have to be careful to monitor the sap content of this wood (4731).

D. Carrillo reports that her family members only harvested deadwood. She maintains, "You don't cut green trees down" (4728), explaining, "You take only the dead stuff because if you don't have the green stuff, how will you survive?" (4841). She is saddened that the environmental ethic has changed, with many of the area's woodcutters harvesting green piñon trees for wood, which they then sell to urban residents for burning in recreational fireplaces (4847).

Hilario Romero, who always worked while he was in college, began a small firewood business during his sophomore year in 1968. He recalls initially hauling wood in a 1961 Mercury Comet sedan, while everyone else was using pickup trucks (5245). He carried wood both inside the passenger compartment and strapped to the roof of the cabin. Only later did he buy a pickup truck of his own with profits from his business. This business venture represents the first time that Romeo began interacting with the Forest Service.

Romero (5247) subscribes to the ethic of never cutting a live tree for fuel wood, unless, perhaps, it is diseased. He used a double edge ax, bow saw, and gloves. "I wish that they would outlaw chainsaws. I don't like them...and they were so much noisier back then" (5247).

Once he had a pickup truck, Romero began harvesting wood in Pacheo Canyon in the Sangre de Cristo Mountains foothills north of Santa Fe and on the east flanks of the Jemez Mountains above the Dome Wilderness when there was snow on the east side of the Rio Grande Valley (5247, 5271). Typically, the eastern Jemez Mountains forests remain snow free and are accessible through Peña Blanca.

Romero (5271) harvested two types of juniper wood (*sabino* [*Juniperus monosperma* {one-seed juniper}] and *cedro* [*Juniperus scopulorum* {Rocky Mountain juniper}]) and piñon. When he worked in the Jemez Mountains, he would try to sell his wood to residents of the nearby Pueblos of Cochiti and Kewa (formerly known as the Pueblo of Santo Domingo), thereby saving him both the trouble of hauling the wood home and splitting it for sale. He explains that the Pueblos characteristically wanted the wood intact (Romero 5271).

Romero remarks, "All my life I've cut wood. It was easy for me...I call it my 'Zen,' *partiendo leña* [splitting wood]" (5248). He credits his grandmother, who was a tiny woman only 4'9" tall and 96 pounds in weight, his grandfather, and great-uncle for teaching him traditional ways for splitting wood efficiently (5248, 5249). These relatives taught him that a precisely placed strike based on precision, not physical force, was most effective. His grandmother, in particular, could split kindling (*palitos*) expertly with a hatchet Romero (5248) states that in his prime, he could eye a log and know exactly where he needed to place the ax to split the wood, or if he needed to use a wedge and hammer.

Romero (5273) also talks about camping in the Jemez Mountains and other mountainous settings while hunting and fishing with family members. He recalls not having any trouble finding dead and down fuel wood or an abundance of dead lower branches for the family's campfires. He describes pruning the trees of their dead branches either by breaking off their boughs using his hands or feet. He father also used a bow saw to trim larger limbs.

Fred Vigil (5698) reports that his family harvested limited quantities of firewood from the Jemez Mountains while he was growing up. Because most of the Vigil Family's activities in the mountains were related to their summer cattle operations on lands leased from the USFS between the Santa Clara Canyon and the Valles Caldera, Vigil Family members seldom could carry much fuel wood when they were ranching; the space in the back of the pickup trucks was too limited when they were transporting horses. As a consequence, the Vigil Family harvested most of its firewood from the Mesa Vieja locality in the Piedra Lumbre area north of the Jemez Mountains range. This setting typically was easier to get to and from than the family's summer pasturage in the Jemez Mountains.

Roberto Valdez (5566) reports gathering wood for heating his home each year. He usually goes into the forests during October, sometimes as part of a piñon gathering venture, although he notes some people start harvesting fuel wood in August. He adds,

> I burn wood not just for economic reasons. I burn wood because it is one of several fragments of cultural heritage that I am holding on to. Fuel wood harvest puts you in a position to stay connected to where your resources come from (traditional resource procurement), it lets you engage in an aesthetic activity with the natural world (thinning, removing dead and down, and pruning give you satisfaction that you left a place better than you found it)... [Email to Kurt Anschuetz, September 2, 2013]

Although he lives in Espanola and could go into the northeastern margin of the Jemez Mountains using 31-Mile Road, Valdez (5567) states that his family always preferred to go into this range through Coyote, which is farther north, while he was growing up. Family members—first his grandparents and now an uncle—have had a ranch in this setting for many years.

Valdez now favors driving to Lindrith for fuel wood because there has been accessible and abundant dead and down piñon wood in this location since a 2002 bark beetle infestation (5568). He also harvests wood in the Espanola Valley itself (e.g., Chinese elm, locust, and scrap lumber). He mixes this wood with the piñon.

Valdez describes traditional woodcutting gender roles. Men tend to handle heavier equipment, and "Wood piles become a symbol of their manhood" (5579). Women would pick piñon and collect smaller branches for kindling use.

Fred Lucero reports that for local Hispanic residents, just as the members of the area's Pueblo communities,

> Fuel wood is like everything else. The locals know where to go. The people from Albuquerque, [USFS staff] have got to draw them a map... It's been an ongoing process forever. [4914]

F. Lucero adds that local folks like the big, dry, downed logs. There characteristically is an informal competition each season to see who can haul out the biggest load.

Other Traditional Wood Uses

Several rural residents mention harvesting wood products for various uses by their families. Gilbert Sandoval (5370) talks about cutting large ponderosa pine timbers for building the bridge across the Rio Jemez to his family home. Family members skidded the *vigas* one or two at a time from the Banco Bonito to Jemez Springs. Sandoval's father also used lumber that he personally harvested from the nearby forests to build kitchen cabinets.

Vigil (5699) reports that he always enjoyed cutting *vigas* for the corral that his family maintained on their property for their cattle on the northwest side of Espanola. One summer, Vigil, who was still in his teens, moved and rebuilt the corral complete with an earthen ramp so the cattle would load easily (5700).

Roberto Valdez (5571) uses deer hides to make traditional brain-tanned buckskin (*gamuza*) and lace (*correa*). He talks about gathering *honchera*, which consists of the bright golden brown cubes of rotted wood seen in the centers of old downed timbers, for smoking the

hides. This treatment makes the leather less permeable to water and gives the strap a better smell.

Logging

> *There is a place for these activities, but it should be managed... like the hunting season..., so they don't kill everything.* Fred Lucero (4913)

Large-scale commercial logging largely ended in the Jemez Mountains during the 1970s in the Jemez District (Gilbert Sandoval 5382) and during the mid-1980s in the Espanola District (Fred Vigil 5771). Bill Armstrong explains,

> It was... evident that timber was dying as an emphasis in the Forest Service. Mills were closing. The public had given us a pretty clear signal that they didn't want to see harvesting occur anymore, at least not on any kind of scale. [412]

Sandoval (5443) mourns the loss of the industry, not just for the loss of between 7,000 and 8,000 jobs that has forced many families to leave their native landscape in the search of employment elsewhere, but also "[t]he freedom to use the land and the ability to apply management to the land because you know it needs it" (5444). He contends,

> Ignoring it is not management. Abandonment is not management, and literally, that's what we've done to the timber resource. [5385]
>
> We've lost probably 500 million board feet of timber to mortality. They just die and fall over. [5386]

Sandoval concludes that there is a market for tree products from the Jemez Mountains' forests. He says, "Look at the price of lumber at Home Depot" (5441).

Just as Sandoval and his brother Fred, Orlando Lucero (5162) would like to see the resumption of managed logging, both for the employment it would bring and the reduction in fire fuel loads. He recommends that the logging of a timber tract be followed by a period of time for local residents to take out slash.

Speaking to the issue concerning how careful logging can contribute to the health of overgrown woodlands, Anthony Armijo (359) reports that the Pueblo of Jemez had recently conducted a timber sale even though his community did not profit significantly from it. He states that his community primarily undertook this initiative because of the threats from forest fires and the Pueblo's interest to help create healthier lands,

Louie Hena (4088) is not a great advocate of a return of logging in the Jemez Mountains. He says the many of changes that he has seen in the forest over his lifetime as a consequence of industrial-scale logging include more roads and increased erosion. Nonetheless, he talks about the need of local communities to harvest forest products on a small, sustainable as part of their management of the area's forests (4100).

Roberto Valdez (5591) and Fred Vigil (5773) favor small-scale, local logging enterprises. Based on the failure of attempts by the USFS to encourage local sawmill operators in the Vallecito Sustainable Yield Unit because of criticism from environmentalists, Valdez suggests that managers consider design their programs to protect area lumbermen from undue disparagement.

Fred Vigil (5773) knew several different area families that were dependent on the timber industry for their livelihoods. He notes that there was a family in Hernandez that would bring *vigas* down from the mountain for sale in a lumber yard at which they kept poles and beams of many different lengths in stock. Vigil would buy long *vigas* from this operator for use in his corral projects (5700, 5773). This family-owned operation is now gone.

Although there is still is a small shop in Sambrillo[111] that sells *vigas*, Vigil (5775) laments, "Nobody can get permits to go in and log. It was a good little industry. Kept the family fed" (5774). He believes further that small scale, well-managed logging can be a good way to help keep the forests clean (5770).

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[111] Sombrillo is in the Santa Cruz Valley a few miles southeast of Española.

Vigil (5769) recalls how people, including family members, would visit the Duke City sawmill on Espanola's northwest outskirts to obtain decaying sawdust for their garden. The people would mix the sawdust with pumice and dirt to make fertilizing mulch.

Vigil (5724) also remembers that every ranch in the lower Chama Valley had *granero* (a vernacular log barn) when he was growing up. All of the logs for these structures had been cut and dried in the neighboring forests. Vigil suggests that sustainable small-scale logging and surviving traditional knowledge of log barn building could be used to boost the local economy by providing employment, fulfill a need for storage buildings, and breathe new life into a once-important Hispanic farmland tradition.

Plant Gathering

> *You kill only what you kill, if you're gonna eat it and you need it. You don't kill and leave it there. That's respect. The same thing with the plants. When you go pick* chimaja[112]*, you don't rip the plant out. Because if you rip it out, then you won't have it growing there anymore. So, you take the leaves. You take the little stems, and you're very careful. That's respect.* Debbie Carrillo (4840)

Piñon

> *It was extremely important...as important as corn...We were at the mercy of piñon.* Tito Naranjo (4355)

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[112] *Chimaja* (*Cymopterus purpureus*) is the Spanish name for wild celery/wild parsley. This plant, whose leaves are chewed to relieve stomachaches and roots are added to beans and peas as an herb, is popular among the Jemez Mountains Hispanic and Pueblo communities alike (Ford 1975:Appendix E, 94; see also Dunmire and Tierney 1995:192-195).

Gregory Cajete (3909), Debbie Carrillo (4714), Louie Hena (4053), Orlando Lucero (5200), Anthony Moquino (4306), Tito Naranjo (4355), Peter Pino (4498), Porter Swentzell (4589), Roberto Valdez (5561), and Fred Vigil (5701) all talk about going into the Jemez Mountains to harvest piñon nuts most, if not all, years as children. Most of these individuals describe piñon gathering as an important activity for their families. For some people of their respective communities, piñon collecting persists as an essential household activity.

According to Louie Hena (4054), piñon gathering was not limited to any one area. Instead, his family went where nut crops were available any given year.

He describes his family as hitting "all around the whole mountain range" (Hena 4054). His family members knew where the piñon stands were good by "word-of-mouth... It just happens... Pretty soon you hear about it one way or the other" (4055).

Anthony Moquino (4306) reports that Ohkay Owingeh's piñon camps were predominantly on the west side of the Rio Grande and that there is not nearly as many piñon stands on the east side of the valley. He identifies Santa Clara Peak, on the east flanks of the Jemez Mountains and Tres Piedras farther north as his community's traditional piñon gathering areas. There was no ownership, however. Rather, the first to discover a productive stand was welcome to harvest it (Moquino 4302).

Moquino recalls that groups of 100 to 200 community members were not uncommon (4306), given that piñon formerly was such a dominant crop" (4302). "That is a phenomenon. I miss these times, going for piñon" (4306).

Peter Pino shares that "whole families"—from grandchildren to grandparents—participate in piñon gathering expeditions out of Zia Pueblo. While harvesting a valued food, the experience teaches "all about Nature across the generations" and children learn how "to become good stewards of the forest" (4498).

Pino (4498) maintains that piñon nut gathering is good for the land, the community, and the individual. He talks about the practice of pruning piñon trees of their dead lower branches during this activity:

> The dead part is coming from the ground. In order to get down and pick piñon, you need to remove those, or else you get poked...That's the wood used to keep warm at night. [4493]

Pino and his fellow community members recognize that pruning is beneficial to the piñon tree in two ways (4493). First, the removal of dead branches enhances a tree's health. Second, the pruned tree is also less susceptible to wildfire because they have been cleaned of ladder fuels that would enable a ground fire to climb into their canopies, thereby becoming a crown fire.

Porter Swentzell remarks that one of the jobs for children during his family's piñon picking expeditions was to gather firewood for use in the camp. The wood on the ground was often damp. Consequently, the children would break off the lower dead branches from the piñon trees: "Gathering wood was a process of walking around, cracking off all the low-level dead branches" (4594). Swentzell still follows this practice today, and he says, "It's always kind of strange to me when people bring firewood with them" (4594).

Swentzell (4593) recalls that family would usually camp two or three days—but not as long as a week—gathering piñon nuts. Everyone would look forward to gathering the nuts, with Swentzell admitting that he eats as many nuts as he could gather. Besides collecting nuts and firewood for use in camp, his duties include climbing trees and shaking them so the cones would drops their seeds (4589).

It has been three years since there has been much of a piñon crop in Santa Clara Canyon (Swentzell 4590). He adds that piñon crops, even when they have occurred in recent years, have been much less regular than they were when he was a boy.

Tito Naranjo (4355) warmly remembers accompanying his family to pick piñon when he was a youth. They would travel all across the Jemez Mountains by wagon to visit whatever stands were producing that given year. He identifies the west flanks a large ridge that extends north of Tsikumu, his community's Mountain of the West, to Tsi'pin, one of his Pueblo's ancestral homes as a favored location (4355). The "Crow Corner" area in the upper reaches of

the Santa Clara Canyon watershed historically was another prime piñon gathering location (Naranjo 4354).[113]

The women would spread shawls or canvas tarps beneath the trees. Someone would climb the trees to shake their crowns, and family members would pack their harvest in burlap sacks (4355). Naranjo recounts that in late fall, during the community's deer hunts, the men would rest at productive piñon stands if the weather was warm and fill their pockets with nuts, which they would later eat as snacks. "A lot of the piñon, while we were hunting, was already sun roasted" (4354).

Piñon gathering, for the residents of Abiquiu, similarly was an activity in which several families pooled their labor. Debbie Carrillo (4714, 4719) recalls that there were usually no fewer than four families who would work together for the day-long ventures in which she participated as a child, although piñon collecting expeditions traditionally involved camping for days, even months, at a time (see below). Community members always knew where to go because they had checked the piñon trees for nuts when they were cutting wood or hunting throughout the summer and early fall (4718).

Unlike many other families, D. Carrillo's clan did not place tarps underneath piñon trees. Each nut had to be hand-picked off the ground (4714). She explains that her mother hated *vano* (hollow piñon seeds) (4715). Handpicking, therefore, minimized the likelihood of harvesting empty nut cases.

Family members shook trees to dislodge the piñon nuts from their cones (D. Carrillo 4717). They did not shake the trees so hard as to make the cones fall from the tree, however. People used both hands to pick nuts off the ground (4716). They placed the nuts in coffee cans while they were picking. Once a person filled their can, they transferred the nuts to a large sack.

Charlie Carrillo (4720) retells remembrances that Debbie's grandmother had shared with him. When she was a young girl in the early decades of the twentieth century, Debbie's

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[113] The Crow Corner area, however, apparently is within the burn scar of the devastating Las Conchas Fire.

grandmother's father (i.e., D. Carrillo's maternal great-grandfather) earned part of the family's living by running a small piñon nut enterprise.

D. Carrillo's grandmother had eight brothers and sisters (C. Carrillo 4722). All would go into the Jemez Mountains for two or three months to pick piñon nuts each year. They would be out of school because the nuts were so important to the to the family's economic welfare. During these ventures, the family

> would move all around the landscape. Even if the house was only three or four miles away, they would camp out overnight. They would spend two or three months picking piñon. They would pick thousands of pounds, not hundreds of pounds. They would pack big sacks. They would call them *sacos reyados* [striped or streaked sacks]. [4720]

According to C. Carrillo (4721), each *saco reyado* would hold about 250 pounds of nuts. The family would fill 30 to 40 of these sacks, representing a harvest of between 3.75 and 5 tons of nuts, each year. D. Carrillo's great-grandfather took 4 or 5 wagon loads of piñon nuts to Espanola each year to sell to local traders (4723). Each trip required 2 days to travel each way, with an overnight stay with family members in Hernandez.

Fred Vigil (5701) tells that his family similarly gathered piñon nuts on a large scale. Both sides of his family had piñon gathering histories, but his mother's family members were particularly dedicated piñon collectors. Although family members would gather piñon in the fall, they did so only in comparatively small amounts. "You're so busy with the corn harvest and everything else" (5701).

Vigil (5701) tells that women of his mother's family would go into the Jemez Mountains for the entire month of February to harvest piñon. They had to sweep the snow from beneath the piñon trees in preparation for their work. While some of February piñon harvest would be consumed in the family's home, most was traded at Bond and Knowles' general store in Espanola (5702). Vigil's grandmother used her share of the piñon proceeds to purchase coffee and sugar, while his mother sometimes would trade for dress fabric.

Other Plants

Gregory Cajete (3909), Debbie Carrillo (4701), Louie Hena (4095), Orlando Lucero (5200), Anthony Moquino (4247), Tito Naranjo (4376), Hilario Romero (5231), Gilbert Sandoval (5481), Roberto Valdez (5559), and Fred Vigil (5706) talk about their family traditions of gathering native plants for use as food or medicines. Among their more notable comments is the remark offered by Orlando Lucero about the traditional ubiquity of plant gathering among the region's Hispanic, as well as Native American, residents: "People talk about Native Americans as the only ones who use [native plants] ..." (5200). Roberto Valdez (5589) asserts further that many of the area's Hispanic residents maintain their traditional cultural knowledge about native plants and will pick and eat native herbs when they are in the forest.

Gregory Cajete's (3909) family would gather whatever plants for which somebody had a need throughout the growing season. By late September or mid-October, most of the native plants in the mountains had died back.

He used to pick plants with his grandmother, who would always look for certain kinds of plants (3945). Through these hands-on experiences, Cajete learned which plants could be used medicinally and which ones could be used for food or other purposes. This education "peaked" his interest later on to learn more about plants and seeing what Western Science had to say. This childhood training underlies his professional interest in plant ecology today (3945).

Louie Hena (4116) recounts going into the Valles Caldera when the property was still owned by the Dunigan Family. His purpose was to collect traditional medicines for use back in his Pueblo.[114] Hena (4095) notes that he also saw many willows (*Salix* sp.), whose branches are suitable for making baskets, during these forays.

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[114] The Valles Caldera is considered by residents of nearby Pueblos and other traditional and historic communities to be a place of great spiritual and supernatural power (Anschuetz 2007c:153). Native American communities characteristically include the Valles Caldera in a system of mythological belief about a timeless place where the past and future come together in the present (after Naranjo and Swentzell 1989:257; Tuan 1977:121). Although counterparts may grow outside the Valles Caldera, medicinal plants that grow in this sacred landscape are considered especially powerful by virtue of their association with this place.

Now that the Valles Caldera are public lands, Hena is critical of policies that continue to "keep" people out and prevent residents of the surrounding traditional and historic communities from harvesting resources from this revered landscape with the intent of protecting the land from damage. He contends that in community-based management programs, the community organizes to take care of the environment: "I know that the community knows much better than somebody from the outside about how to manage their backyard" (Hena 4095).

Hena shares that his family looks to the Jemez Mountains for another plant. They harvest their Christmas trees from the Jemez's forests (4053).

Anthony Moquino (4247) states that the Jemez Mountains are sacred to the people of Ohkay Owingeh. Given its associations with spiritual and supernatural powers, he has known that these mountains are also a source of powerful medicines since early age through lessons taught to him by his mother and maternal grandfather, who were both herbalists (4253).

Moquino (4254) remembers that he was 9 or 10 years of age when he would accompany his grandfather to collect medicinal plants. Under his grandfather's tutelage, Moquino learned to recognize and harvest certain plants in the forests, as well as administer them as treatments back home in the Pueblo.

Tito Naranjo (4369) tells that members of Santa Clara Pueblo's Bear Society visited the Valles Caldera to harvest *osha*, wild onions (*Allium* sp.), and willow, among other species known for possessing medicinal powers.[115] Their pilgrimages occurred every summer. Bear Society members cured spiritually, but they also cured many physical ailments, such as cuts, colds, broken bones, and fevers.

Naranjo (4408, 4409) also shares that Douglas fir, which grows in the Jemez Mountains' mixed conifer habitats, including the Valles Caldera and Bandelier, is a sacred tree for the people

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[115] Several medicinal uses of *osha* have been mentioned previously. Nodding onion (*Allium cernuum*) is used by Pueblo people for treating sore throats and pneumonia (Dunmire and Tierney 1995:164). Besides providing thin branches useful in making baskets, willow is an important source of salicin, which breaks down into salicylic acid, which is the basic ingredient of aspirin (Dunmire and Tierney 1995:110).

of his Pueblo.[116] He explains that its needles are soft, and the people make a dance collar. They also hold boughs in their hands when they dance. Moreover, the kiva is called, "Douglas Fir Underground Place."

Debbie and Charlie Carrillo (4701, 4702, 4705, 4707, 4709, 4711, 4713) identify a suite of plants that Debbie's family regularly harvested for a variety of uses in their commentaries. These species include *berro* (watercress [*Radicula nasturtium*]), *chimaja* (see above), *guaco* (Rocky Mountain beeweed [*Cleome serrulata*]), *inmortal* (spider milkweed [*Asclepiodora decumbens*]), wild onions (see above), two varieties of native oregano (*oregano del campo* [*Monarda pectinata*] and *oregano de la sierra* [bee balm {*Monarda menthaefolia*}]), *osha* (see above), *quelites* (lamb's quarters or pigweed [*Chenopodium album*]), and *verdulaga* (purslane [*Portulaca* spp.]).

The Carrillos (4701, 4713) note that people use *chimaja* commonly as a herb for seasoning beans. It is also sometimes sprinkled on cucumbers (less common). Although prized, *chimaja* is available only during March and April.

The Carrillos (4705) remark that *guaco*, which was often mixed with beans for use as a food or used as a base for making a base for pottery paints, is high in iron. If it is prepared for eating, the water in which *guaco* is cooked must be changed up to four times to flush out some of the iron and reduce the plant's bitterness. People also traditionally used lode stones, which are naturally magnetized rocks, or a piece of iron to help draw out the bitterness. D. Carrillo recalls that her grandmother kept a bolt near the stove, so she would always be ready to cook *guaco*.

C. Carrillo reports that a good *guaco* crop grew in the Vallecitos area in the Jemez Mountains in 2011. The plant favors disturbed ground and must sprout in the spring to have enough time to produce flowers. The plant also requires moisture. Given the severe drought

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[116] Dunmire and Tierney (1995:67,103) add that contemporary Pueblo people are known generally to use Douglass fir in making prayer sticks, and archaeologists have found similar ritual artifacts during their studies of Ancestral Pueblo groups (Dunmire and Tierney 1995:103). This plant species is also depicted in a kiva mural that dates to about A.D. 1450 at Kuaua, which is a Pueblo located near the Pueblo of Santa Ana located at the southeast margin of the Jemez Mountains (Dunmire and Tierney 1995:103).

conditions across the region since this time, C. Carrillo thinks that it is unlikely that much *guaco* has grown in this setting since.

D. Carrillo (4712) recalls seeing large milkweed plants growing when she was a child. Men would cut pieces off *inmortal* plants for use at home.[117]

An important medicinal plant, *osha*, is rare (D. Carrillo 4709). She cautions that people need to be careful not to overharvest this plant. They should only break off a few small pieces of its roots, just as they do with *inmortal*, to allow this plant, to survive. The Carrillos (4710) state that each person traditionally kept a piece of *osha* root in their pocket to ward off snakes. People would also make a hot tea to treat sore throats and colds. *Osha* tinctures were useful in treating a variety of sores.

Quelites and *verdulaga* grow in generally the same habitat (4703). These species characteristically are found during the summer when it rains. C. Carrillo (4704) notes that people would harvest *quelites* and *verdulaga* seeds and scatter them where they knew there would be water in subsequent years. In fact, he now scatters *quelites* and *verdulaga* seeds in the backyard of the Carrillo Family house in Santa Fe. This traditional practice of scattering native seeds also explains why *quelites* and *verdulaga* commonly occur in irrigated fields (4703).

Roberto Valdez states, "Both grandma and grandpa knew, and uncles, too" (5559) about native plants. He recalls them discussing the medicinal uses of some plants, including:

- *Añil del muerto* (cowpen daisy, goldweed or crownbeard [*Verbesina enceliodes*])—a small sunflower that people chewed to relieve stomach upset or cramps, boiled to relieve gas, and prepared as a wash to treat rheumatism and skin ulcers (5562);

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[117] Moore (1979:90) states *inmortal* was traditionally used by northern New Mexico Pueblo and Hispanic populations for treating asthma, pleurisy, bronchitis, and other general lung infections. He adds, "[A]ny substantial portion of the root that is left in the ground will regrow the following year—hence its Spanish name, *Inmortal*" (1979:89).

- Escoba de la víbora (matchweed, snakebroom or broomweed [*Gutierrezia sarothrae*])—a small shrub with many small leaves and yellow flowers that was good for digestive ailments (5560);
- *Ruda* (Fendler meadow-rue [*Thalictrum fenderi*])—a relatively common perennial in the buttercup family that grows in shady areas beneath scrub oak an traditionally was to treat for cold headaches (5560); and
- *Trementina* (piñon pine pitch)—used to pull out cactus spines (5565).

Valdez (5598) mentions in passing that he eats *lemitas* (skunk bush [*Rhus trilobita*]). He (5563) also briefly mentions *zacate azúl borreguero* (possibly muttongrass [*Poa fendleriana*] and timothy-grass (*Phleum pratense*) as part of a typology of grasses important for pasturage. The latter, which is often known outside the northern Southwest as meadow cat's-tail and common cat's tail, is a non-native species.

Fred Vigil's (5706) family members also harvested native plants. He talks about helping his relatives harvest a native species, which he remembers being called *yerba macho*,[118] from high in the Jemez Mountains for an uncle who suffered from cancer. His family members would store their harvest to share with the uncle and anyone else who needed it.

Hilario Romero comes from a long line of herbalists who made use of native plants along with spirituality in their cures. His paternal grandmother, who was of Jicarilla and Ute heritage, was a practitioner of the *curanderismo* healing tradition as a *mística* (mystic) (5234). Several of his other relatives were informants to L. S. M. Curtain (1965) and Tibo J. Chavez (1972) when these researchers were writing their now classic works on New Mexico's herbal folklore (5232).

Romero learned how to use herbs from his grandmother, he relied on herbs as medicines after suffering a bad reaction to antibiotics when he was 17, and taught his sons what he learned from his relatives (5231). He also has formally taught *Curanderismo* I and II at Metro State University (in Denver, CO) within its Chicano Studies Program. The value of Romero's remarks lies in the fact that as an herbalist and historian, he recognizes the cultural significance of New

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[118] The identification of *yerba macho* in common English and scientific Linnaean taxonomies is unknown.

Mexico's *curanderismo* healing tradition to which many of the Native American and Hispano participants in this study were exposed while growing up. Herbal medicinal use of Jemez Mountains plants is an age-old, albeit now disappearing, landscape custom.

Hunting

> *I know that lots of hunters feel that there is an unfairness in how the State of New Mexico allocates [hunting] licenses.* Gregory Cajete (3924)

Gregory Cajete (3909), Louie Hena (3925, 4053), Fred Lucero (4953, 4968), Fred (4968) and Orlando (5072) Lucero, Anthony Moquino (4251), Tito Naranjo (4359, 4363), Hilario Romero (5271), Gilbert Sandoval (5425), Porter Swentzell (4587), and Fred Vigil (5704) have hunted in the Jemez Mountains; all but Romero grew up in neighboring traditional and historic communities. They variously discuss hunting mule deer, elk, mountain lions, bears, turkeys, rabbits, packrats, grouse, and pigeons. Cajete (3924), Hena (4112), F. Lucero (4953), O. Lucero (5417), Moquino (4251), Naranjo (4359), Sandoval (5428), Swentzell (4669), Valdez (5629), and Vigil (5749) all talk about the great increase in the region's elk population since they were young.

Although they did not specifically identify themselves as hunters, Debbie Carrillo (4738) and Robert Valdez (5632) have family members and friends who are. They understand the economic importance of game meat to rural families.

Gregory Cajete reports that his family hunted deer primarily, but members, including himself, also harvested turkey, rabbits, and grouse. "There was a lot of different kinds of game" (3920). Hunting activity picked up in November and persisted through December.

Although there are more elk, Cajete states that it is more difficult to obtain hunting licenses outside the Santa Clara Pueblo (3924, 3925), which regulates its own hunting (3926). He believes many other local communities have issues with how the State of New Mexico manages its elk herds and issues permits. The issue involves the use of licenses to raise money.

Louie Hena has hunted deer and elk in the Jemez Mountains with family members since he was young. He feels that there is plenty of game, especially elk, today (4112). He does not hunt turkey.

Anthony Moquino (4251) recalls killing his first deer near Cañones, which is at the north end of the Jemez Mountains range, when he was 12 years old. He and his father used to hunt together and they would harvest a deer every year (4317). He feels that poaching is contributing to the reduction in the number of fewer deer nowadays. Moquino also adds that he does not hunt near Tsikumu, because this mountain is a powerful place.

Tito Naranjo (4360) shares that it was customary for the women of Santa Clara Pueblo, not the men, to determine how many deer were needed each year for jerky. The women would calculate how much meat was needed to last their families through the months of March and April. He remembers that March was often a "devastating" month for the people of his Pueblo because food supplies typically ran low at this time.[119]

His family used to need five deer, on average, to make enough jerky that would last family members through the winter (Naranjo 4358). He remembers how happy his father was when the reintroduced elk herd began moving into Santa Clara Canyon back in the late 1950s or early 1960s. Naranjo explains that one or two elk would provide the family with all the jerky that it needed, besides, he exclaims, bullets are expensive!

Naranjo (4346) recounts further that his father, while still a young man, would carry a .22 rifle when he ran between the Pueblo and the family's fields on the Pajarito Plateau, which forms the east flanks of the Jemez Mountains, because he sometimes would encounter a mule deer or turkey along the pathway. When his father shot a deer, he would gut the animal, either hang the carcass from a tree or place it on of bed of branches to cool overnight, and retrieve the animal the following day. If he laid the deer on the ground, Naranjo's father would cover the animal with his shirt to protect the carcass from coyotes.

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[119] Naranjo (4356) recalls further that family members formerly caught bluebirds and robins for food during this lean season. They used snares made from sunflower stalks rigged with horsehair nooses and willow branch triggers.

Naranjo (4358, 4361) has hunted mule deer and elk throughout the Santa Clara headwaters and the surrounding vicinity since he was a young man. Early on, he usually accompanied older men who taught him both about hunting and the landscape that was essential culturally and historically to his community (see Chapter 14.)

Naranjo (4361) has learned that deer love aspen and aspen meadows, especially in late August and mid-September, when mushrooms are in season.[120] Deer turned from browsers to grazers at different times of the year. He shares that deer were especially fond of the "Crow Corner" area of the Santa Clara Canyon because there was much oak at this location for them to browse upon before the recent Cerro Grande and Las Conchas Fires (4354).[121] Naranjo (4359) adds that deer are generally unafraid of people during the rut. Snowstorms are good times for hunting because the animals' usually keen senses of smell and hearing are dampened during these weather conditions.

Several years ago (ca. 2010), Naranjo (4420) saw a doe with four fawns on Caballo Mountain, which is on the Santa Clara Pueblo's Reservation portion of the Jemez Mountains. He figures that this rare sight—he had never before seen such an occurrence—means that although the deer population is low there is enough food for the herd to grow. Naranjo concludes that under such conditions, "Nature does it" (4420). The fertility of the animals increases. He adds that local ranchers and farmers have always known this.

Naranjo (4365) reports that only a few members of the Santa Clara Pueblo hunt bears. It is against Santa Clara tribal law for common folks to hunt bear because this animal is the totem of the Bear Society, one of the Pueblo's Medicine Societies. Bear skins, paws, selected bones, and fat, however, are needed for some of the Pueblo's traditional cultural practices (4365, 4366). Certain people, therefore, are provided with privileged cultural knowledge that allows them not just to hunt bears but to do so safely.

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[120] Naranjo (4361) reports that the Valles Caldera is rich with mushrooms at this time of year.

[121] Naranjo (4352) has seen the archaeological traces of game pits, which were carved into the soft volcanic tuff that characterizes the Pajarito Plateau's geology, constructed by his ancestors to trap deer and/or eagles centuries earlier in this same location.

Naranjo (4366, 4396) shares that because bears are strong, both physically and metaphysically, they lend their strength to certain medicines, as well as some of his community's sacred rituals. Speaking of the fat rendered from hunted bears, Naranjo recalls that his great-grandmother would give some of the grease not used in ceremonies to people, especially potters, for use as a salve to heal dry, cracked skin. "Not only will it make you well, it will keep you from getting sick" (4366).

In his remarks, Naranjo (4363, 4364) also reveals that people of Santa Clara Pueblo snare jackrabbits, hunt packrats with a rabbit stick (and then raid the packrat's nests for their stash of piñon nuts), and use long oak staves to hunt skunks for skins needed to make some traditional dance costumes. Naranjo (4382) has also hunted mountain lion and bobcat in the Jemez Mountains upon occasion, noting that meat of these animals (and other cats) resembles pork but has less fat.

Naranjo (4368) has hunted mountain sheep in the Sangre de Cristo Mountains where they have been reestablished at Taos and in Pecos Wilderness. He contends that NMDGF is mistaken in claiming that mountain sheep lived only in specific ranges; Naranjo would like to see these animals, which occupies an important place in his community's traditions, reintroduced to the Jemez Mountains.

As a youth, Porter Swentzell (4587) regularly hunted pigeons, which were eating the food that his family was giving to their domestic birds, using a pellet gun. Because he was taught that if he killed anything, then he had to prepare it for food. Swentzell, therefore, spent "many days" shooting, plucking, and preparing pigeons for his family to eat. He has experience butchering pigs, as well as the game that he would help his uncle, Tito Naranjo, bring back from "The Mountain" (4588).

Debbie Carrillo states that while she was growing up in Abiquiu, men hunted mule deer, and some elk, "all the time" (4738). Some children took up bows and arrows to hunt native turkeys.

Orlando Lucero says, "I love hunting. My boy and I have outfitting licenses. We take people out..." (5072). They hunt mountain lions, bears, and other game animals. He feels that although the elk population was larger—and causing damages in their San Diego grazing lease

area in the SFNF Jemez District a few years ago, "They are still a problem. I think that they're not being hunted [enough]" (5147).

Fred Lucero (4953) recalls commonly seeing mule deer while he was still an adolescent. "I never knew an elk until I...was a teenager, I guess. I didn't know they existed" (4954). Although their numbers are still relatively low compared to the time when he was growing up, F. Lucero reports seeing an increased number of deer (4955), as well as turkeys (4967), in recent years (4955). He admits that he has no clear idea why the deer population is making a comeback, but he wonders if the population had been overhunted before the elk boom began.

F. Lucero has gone elk hunting in recent years; however, he has not gone deer hunting in a long time (4968) and has never hunted turkeys (4967). Sharing sentiments with Gregory Cajete (see above), he has issues with how the State of New Mexico manages the elk herds and allocates permits (4949). In particular, F. Lucero thinks that the NMDGF should issue some preferential permits based on local residence so area families are better able to harvest what they need for their households.

Fred Vigil (5704) states that his brothers hunt more than him, and he adds that he only began hunting when he was older. The men never hunted in the summer because animals were not yet fat. They were often successful taking young deer in the fall, at which time they also hunted grouse.

When Vigil Family still ran cattle (until the late 1970s), the men would go into the Jemez Mountains through Santa Clara Canyon, always checking in with Santa Clara Pueblo's Ranger. The Ranger sometimes would ask them, provided that their hunt was successful, for the deer's liver, kidneys, or heart for his evening meal (5704).

Vigil (5777) remembers seeing turkeys in the Jemez Mountains when he was a young man. He once hunted them, but decided not to try again, concluding that he lacked the necessary skills.

Roberto Valdez (5629) recites a traditional saying: "*El lazan ajuienta el venado* (The elk chase off the deer)" He reports that there were formerly many more deer in the Jemez Mountains. At the time of Spanish colonization (1598), elk were seen principally on the margins

of the Great Plains farther east and described as resembling deer, being as large as horses, and forming herds of 300 animals (5628). Additionally, Valdez tells that Spanish accounts mentioned that the Pueblos only hunted deer; there is no clear identification of elk hunts in the mountains.

Valdez maintains that in the region of El Coyote, home to his extended family, at the north end of the Jemez Mountain's range, "the best and most well-managed pasture lands are found within the private tract homesteads" (5632). Because the NMDGF is not managing the herd appropriately, elk have multiplied and now damage fences and consume the pasture that local ranchers depend upon to feed their livestock in the winter (5627). Protective measures, including as noise cannons and ever taller fences, do not always work. When damages become excessive, Valdez is aware that some residents resort to extreme measures, such as secretly shooting or snaring the trespassing animals.

Fishing

Rio Grande cutthroat are the most delicious things to eat. Tito Naranjo (4347)

Gregory Cajete (3909), Fred Lucero (4968), Tito Naranjo (4347), Hilario Romero (5269), and Gilbert Sandoval (5360, 5361) all briefly mention fishing streams in the Jemez Mountains outside the Valles Caldera. For Cajete (3909), fishing was largely an opportunistic venture, which he and his family members did in conjunction with other activities, such as piñon nut gathering or hunting, if they were close to fishing streams.

Naranjo (4347), who is an avid and accomplished fly fisherman, recounts that he learned to fish by hand. Reaching slowly beneath bank undercuts, he would first pin the fish with his hand against the bank and then would work his fingers into its gills. All of the trout back then were cutthroats, which Naranjo still highly prizes for eating. Some men would also catch the small suckers that lived in symbiotic relationship with the trout.

Hilario Romero (5269) acknowledges that his present-day connection with the Jemez Mountains is primarily through fishing. He fishes the upper forks of the Rio Jemez, including the Rio de los Bacas. Romero holds fishing in such passion that he once crossed the Jemez

Mountains in March on his way to Cuba, risking bad weather and muddy roads, just so he could spend a few happy few hours on a stream.

Gilbert Sandoval speaking of eating fresh trout caught in local streams, "Boy, it was a treat" (5359). He shares a favorite memory of his grandmother awakening early to irrigate and to "beat the crows" to the fish that got stranded in the fields during irrigation during the night. She would prepare the fish for breakfast (Sandoval 5360). He also shares a family custom: "Our tradition here [in Jemez Springs] ... the Fourth of July is fish fry day" (5358). All the family members and their friends come for dinner after the town parade to feast on fried, baked, and grilled trout. In recent years, Sandoval, his son, and a nephew fish the Rio Jemez to harvest the 150 trout needed for this celebratory meal.

Rock and Mineral Collection

> *We have the source here. We might as well bring it back to life. So, there again it goes back to community-based management. The community, going back, ... managed that area for that purpose.*
> Louie Hena (4218)

For Gregory Cajete and Louie Hena, the Jemez Mountains were valued further as a source of needed minerals, which are essential for sustaining many of aspects of their Pueblos' traditional lifeways (after Hena 4145). For example, pottery clay and minerals needed for making pottery pigments are common in the foothills of the Jemez Mountains (Cajete 3928) and suitable *piki* stone resources are found around the base of Tsikumu in the Santa Clara Canyon watershed. Hena (4104, 4145) questions the appropriateness and need of Native peoples having to obtain permits to harvest small quantities of mineral resources needed for traditional cultural practices, such as clay, ochre, mica and obsidian, from federal and state lands (see also Chapter 17).

Fred Vigil (5697) recalls that he and his family members would always load six or seven inches of black dirt into the back of the pickup truck when they drover their horses out of the Jemez Mountains after tending to their cattle on their leased summer pasturage in the SFNF.

This practice not only gave the horse traction during the ride out, Vigil's mother would put the fertile soil into her flower beds. He recalls his mother always had a beautiful garden.

Ranching

> *You see some cows out there grazing, I mean, that's a good picture. That's a beautiful picture... [the land is] ...being utilized. They belong there... When you see cows there, you know it's friendly.* Fred Lucero (5017)

Anthony Armijo (200) grew up in a ranching family and developed a strong interest in ranching and the lifestyle. His family ran cattle throughout the Hondo Canyon and Borrego Mesa areas on foot (198), with Armijo beginning to help at the age of 5 or 6 (199). Together with his upbringing and membership in the Pueblo of Jemez, ranching provides the foundations of his relationship with the Jemez Mountains as a landscape (201).

In addition to learning about cattle ranching through observation and hands-on participation, Armijo's education included hearing stories about Navajos raiding the livestock run by some of the Pueblo's ranchers in the Valles Caldera during the nineteenth century (204) and the activities of his grandfather whose footsteps he was following on Borrego Mesa and in Hondo Canyon (208).

Armijo also learned the conservation ethic that in times of drought, the Pueblo's ranchers would remove more than half of their cattle to protect the land from damage (248). He was helped to understand that even under the difficult circumstances posed by drought, his community's cattlemen would always act with their herd's long-term interests in mind: cattlemen would cull the lower quality animals so they could continue to improve their stock (256).

Armijo explains the importance of ranching to his community:

> We do it [ranching] because it builds community. It builds family. It builds relationships between members of our community. It builds relationships between and among our family members...It helps to sustain healthy

> lands... We bring a presence to those corners of our Reservation where our members don't usually go, and we're the eyes and ears of what's going on over there. [305]

Armijo (306) concludes that ranching creates a responsibility for his people to be good stewards and to maintain the land. Throughout his commentary, he provides examples of how the people of his Pueblo live this ethic in their everyday ranching activities.

Jemez Pueblo has developed a very good program to do conservation work on their ranch lands (Armijo 230, 231). The community has completed a lot of conservation work in cattle management and watershed/water development on its lands near Cuba to create a healthier landscape (232), and it is developing more livestock watering facilities throughout its range units to minimize disturbances by cattle, which now tend to congregate around the few available watering areas (232). Furthermore, the Pueblo has constructed erosion control features (234) and cleared areas of cholla cactus and sage in recent years to help grasslands recover for the benefit of its cattle and the people who depend on these animals (237).

Armijo reports that the people of his community are seeing encouraging indicators that the land is benefiting from the work they are doing (239). There is much improvement in the diversity and numbers of native mammals and birds (238).

Nobody in Gregory Cajete's (3911) immediate family ran cattle. The closest relative was his grandmother's half-brother, who would share meat with Cajete's grandmother and parents whenever he butchered a cow. Cajete sometimes would help this great uncle.

Cajete (3917) recalls that up through the 1950s, many of the region's residents, not just the people of Santa Clara Pueblo, were involved in farming or cattle ranching. He discusses how the people between the Pueblo of San Ildefonso and the Hispanic village of Velarde, which are south and north of his community along the Rio Grande Valley, respectively, all had access to the Jemez Mountains for their livestock. He notes,

> The east side of the Jemez was always famous for good grazing land. Otherwise you'd have to travel a lot further actually to take them into what is

now the Santa Fe Baldy area in the [Sangre de Cristo] mountains along the way there. [3917]

For the Pueblo of Santa Clara, the piñon woodlands between 6,500 to 6,800 feet in elevation on the Pajarito Plateau were especially favored ranchlands (3913). Cajete remembers many cattle but comparatively few sheep in this setting when he was a youth.

Louie Hena (4052) reports that Tesuque Pueblo's rangeland at Tesuque extends throughout the immediate area surrounding the community. None of Tesuque's ranchers run livestock in the SFNF, and Hena's family has never run cattle in the Jemez Mountains.

Hena (4114) maintains that he sees more damages caused by cattle than elk, because most cattle tend to stay in one place. He feels that active wrangling is needed in the management of cattle. Although he is not an enthusiastic supporter of cattle ranching on public lands, he concedes that a "holistic resource management" strategy actually can enhance ranchland habitats (4114). A proponent of the reintroduction of wolves into the Jemez Mountains, Hena (4113) maintains that ranchers need to understand and accept that they will lose some of their livestock to predators in a functioning ecological system. Besides, he notes, most predators cull sick and weak animals, thereby strengthening the overall herd.

Peter Pino relates that Zia Pueblo, just as at Jemez Pueblo, ranching is something that strengthens family and community. For example, everyone—from grandchildren to grandparents—help brand the family's cattle, with everyone having a job (4529). Pino describes the activity more as recreation than work. The cattle are corralled, fires for heating the brands are started, the animals' horns are cut and treated with pine tar, and young males are castrated after which their wounds are also treated with pine tar. At the end of these tasks, there is a communal meal.

Pino (4530) reports further that families, as a group, tend to the livestock, repair the fences, watch for abnormalities on the range, as a kind of "neighborhood watch." They also tend to the land and its water resources, while they manage their livestock.

Zia Pueblo encourages its cattlemen by charging nominal grazing fees on its land (Pino 4531). Profits are kept by individual owners, but they characteristically share cattle with family

members for ceremonies, such as initiations and weddings. In this way, many people in the Pueblo receive indirect benefits of ranching.

Orlando and Fred Lucero talk extensively about their family's cattle operations over the years. O. Lucero (5028) states that the family formerly ran cattle across the western part of the Jemez Mountains from Jemez Springs all the way to the Rio de los Bacas to the north and to red Top, which is near Cuba, to the west. Family members, however, apparently did not run livestock in the Valles Caldera before the U.S. purchased the Baca Location from the Dunigan Estate.

When they were children, the Lucero Brothers' father leased land on the San Diego Land Grant from Cass Gudner. Even before Gunder's acquisition of the land, the Lucero family had run cattle on this same tract (F. Lucero 4882; O. Lucero 5029). Nowadays, Orlando and Fred lease grazing rights in the former land grant from the SFNF to continue the family tradition. [122]

The Lucero Brothers started helping with the family's cattle operations when they were small children. For example, O. Lucero (5031) remembers taking part in ranching activities beginning when he was just three or four years old.

F. Lucero humorously states that he helped with the family's ranching operations since "Day 1... Any extra time, spare time, just go to the ranch. Got stuff to do" (4869). He recalls that their father would take the brothers out of school when they were needed to help with the family's cattle operation.

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[122] The SFNF purchased Gunder's tract in the 1960s (F. Lucero 4882) and imposed the existing permit system. O. Lucero states,

> When the Forest came in [and took control of the San Diego Land Grant], they threw everybody out. Then they came back and invited the people that ran cattle on the grant to come back. [5030]

O. Lucero claims further that a lot of people who had not run cattle on the grant previously then claimed that they did to obtain access to the pasturage. This is why nobody today has large numbers of cattle.

O. Lucero recalls,

> Years back, the money wasn't as available as it is now. So, ranching and this kind of work was a necessary thing. But nowadays, if you're going to start with cattle... You got to have a lot of money to back you up. If you've got a lot of money to back you up, why start it? It ain't an every Friday payday. [5032]

O. Lucero feels, "This kind of life is great... I love it, [but] I also had to work" (5040). Both Orlando and Fred had off-ranch careers in Albuquerque as heavy machine mechanics before retiring to devote their undivided attentions to their respective ranch operations. During their outside careers, Orlando (5046) and Fred (4881) always helped their father with his ranch.[123] F. Lucero states that while he and His brother worked in Albuquerque, basically all the cattle belonged to their father. "He would give us a little bit of money here in there. Some to eat" (4881).

F. Lucero (4870) recalls that their father first obtained BLM grazing leases near Guadalupe in the Rio Puerco Valley (of the East), which is west of the Jemez Mountains. Their father then traded the Guadalupe lease for a BLM lease on the north side of Mount Taylor in the early 1950s. The Lucero Brothers bought land next to their father's BLM lease at Mount Taylor (O. Lucero 5046) when they started their individual cattle operations.[124]

O. Lucero (5047) thinks that he and his brother now have good spreads consisting of privately owned and leased SFNF and BLM land. They keep their Mount Taylor and San Diego herds separate (O. Lucero 5048). Fred (4874) states that they have to move cattle between the two lease areas because "it's not good winter range area" in the Jemez Mountains. Besides, he adds, they do not have enough "winter permits over here" (F. Lucero 4874). The Jemez winter

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[123] The Lucero Brothers' father worked for the New Mexico Timber Company while simultaneously running cattle (F. Lucero 4870).

[124] Their father first leased BLM land in the Mount Taylor area dating to 1951 (O. Lucero 5048). This tract formerly was part of the Ignacio Celes ("IC") Land Grant and borders the Lee Ranch.

lease extends from near the brothers' homes in Cañon south "all the way to the [Jemez Pueblo] Reservation" (F. Lucero 4880).

F. Lucero explains that their SFNF grazing permit is in the Jemez Mountains. He (4875) states that the Forest Service permit is limited to summer range. The Luceros take most of their cattle to Mount Taylor for the winter. "I have a few over here running around them rocks, but it's only the healthy ones because the other ones won't make it" (F. Lucero 4875).

O. Lucero (5051) says that he, his brother, and son run about 113 head of cattle in their personal holdings at Cañon, which they take up to the San Diego Land Grant Forest Service lease area (5039). The cows have access to springs, not rivers. They eat "good, healthy grass" (F. Lucero 4994). In comparison, they have a little more than 400 head of cattle at Mount Taylor.

F. Lucero says that he, his brother, and nephew have a relatively large number of cattle for small operators. He says that they are "too spread out, actually" (F. Lucero 4878). The logistics of their operation[125] are limiting compared to what the cattle men in the south part of the state experience. "It's been with the family. What can you do?" (F. Lucero 4878).

Although the men individually own cattle, they always work together as family. O. Lucero jokingly refers to himself as the "boss" of his family's three cattle operations (5051). He notes with seriousness that has also served as the Chairman of the San Diego Cattlemen's Association (5052), which has 11 members from the local area (F. Lucero 4891).

O. Lucero (5061) states that he and his family never have had direct problems with wildfire in Cañon where they live.[126] The Luceros, however, experienced fire difficulties where they run cattle on the San Diego Land Grant in the Cebolla/Fenton Hill area along New Mexico State Road 376 (F. Lucero 4927; O Lucero 5061). During a wildfire some years back, the

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[125] Travel time between Jemez Springs and Mt. Taylor is roughly two hours (F. Lucero 4879), and the men can only move eight or nine animals at a time, even with family members working together (F. Lucero 4876).

[126] F. Lucero and his wife find that the smoke that comes down canyon from the north can be terrible, however (4927).

Luceros had "to push" their combined cattle herd out of a burning area, although they were not officially evacuated (F. Lucero 4927). Orlando states, "It wasn't close to my house, but it was close to... [my] ... living" (Lucero 5062).

O. Lucero (5093) feels that the ranching season on Forest Service lands, just as those in the Valles Caldera (see *Ranching* in Chapter 9), should begin earlier and last longer. He explains,

> Range readiness is a big deal for the Forest Service. Range readiness is right now because we did not have that two feet or five feet of snow. There's no snow up there... It's green. [O. Lucero 5093]

When asked if they have experienced "problems" with the USFS regarding their San Diego lease area, F. Lucero hesitates initially. "Problems?... Discussions... husband and wife discussions" (4886).

O. Lucero addresses critics of cattle ranching on federal lands. He feels that cattle can actually benefit the range by fertilizing the soil (5176) and reducing grass fuel loads "like a controlled burn... Part of a controlled process" (5175).

Addressing the same issues, F. Lucero adds that cattle

> limit the amount of dead grass... Somebody gets something out of it... Historically, it's been that way. Places that are grazed... fires aren't spread as much as places that aren't grazed. [4908]

Speaking of detractors who claim that cattle damage the environment unless they are pushed to move, O. Lucero claims, "Cows are not stupid," and says that cattle know to move up the canyon in the spring where they find ready pastures (5095).

O. Lucero asserts further, "I am an environmentalist... I'm not going to go out and destroy the land that I need for my cows..." (5072). F. Lucero contributes,

> We want to preserve it. We want to make it good. We want to keep it clean, beautiful... Keep it productive. [5016]

Reflecting on his life as a cattleman, O. Lucero surmises, "So, we've done this all of our lives... But it's been a good life. I can't complain" (5059).

He recognizes, with understanding, "Very few of the younger ones want this kind of life" (5033, also 5035). "I don't blame them... It's hard work and money's not available. Nowadays there're too many other things" (O. Lucero 5036).

O. Lucero's youngest son, who is now in his mid-twenties, is an exception: "He's already in" (5034) and is already permitted to run 25 animals on the San Diego Land Grant (O. Lucero 5015). The Lucero Brothers' father also gave his grandson some land.

In his reflections, F. Lucero (4893) describes cattle ranching as a life-long commitment. He says that cattlemen start young, but you want to continue working with the livestock as long as you can. He also admits to feelings of melancholy when he looks at a forest and does not see cattle. "It just seems like it's missing something, something's wrong..." (F. Lucero 5017

Roberto Valdez's Family's ties to the Jemez Mountains are largely through the Coyote area at the north end of the range (Valdez 5516, 5524). Growing up, Valdez spent summers at his mother's father's ranch in Cañon del Coyote. His great-great grandparents, surnamed Hererra, had obtained their ranch before the establishment of the Forest Service through the Homestead Law. The patent on the family's property dates to 1900, with the first ranch being established in 1896.

His grandparents did not know the Valdez Family's more distant ranching history. "Memory only goes so far" (5524). Valdez has formally researched his family's history to satisfy his curiosity.

The Valdez Family still ran livestock—somewhere between 8 and 16 head—while Roberto was still a youth (5525). Valdez learned,

> The kind of cattle that is most popular is heifer because... that's the easiest to sell. The heifer, however, is not the kind of cattle the Spanish were using here. [5633]

During his summers at his grandfather's ranch, Valdez mostly roamed where the cattle were grazing (5542) and traveled as far as Cañon del Mogote near Polvadera to track the livestock's whereabouts. On a visit to Cerro de la Garita with his uncle, he remembers using an old logging to an escarpment, known as El Bordo de los Valles, to look down on the Valle San Antonio during one of these summers.

Valdez was usually still in school when his grandfather took the cattle up to the mountain in the spring (5525). He would help bring the cattle to the ranch, if for example, there was to be an early sale (Valdez 5525). Most of the time, however, the cattle would remain up in the mountain grazing on lands leased from the SFNF until October.

As he has grown older, Valdez has assisted ranchers from Coyote in taking cattle up to the mountain in the spring. His uncle, who inherited the ranch, now runs about 40 head of cattle (Valdez 5531). Valdez (5611) mentions that the cattlemen he knows are increasingly concerned that the San Pedro Parks Wilderness will be closed to cattle by urban recreationalists.

He recalls growing up eating beef produced by the area's cattlemen (Valdez 5527). His parents would purchase a calf for slaughter each October or November. This calf would be the family's primary source of meat over the following year. It was usually an animal that they knew and, in accord with the area cattlemen's traditions, often had a name.

Valdez (5634) learned that cattle were important to his family members, as well as their neighbors, as banks. For example, his grandmother's gallbladder surgery was paid for by a cow and a calf.

He also learned that sheep formerly had also been important in his grandfather's way of life (5536). Based on the nostalgic remembrances of sheep herding made by his grandfathers and uncles, it was clear that sheep were actually the family's preferred livestock.

His grandfather worked a wage job, but he usually kept eight or nine head of sheep. The size of his flock fluctuated, with it being as small as four animals at times. Valdez's grandfather kept his sheep either near his house in Coyote, or he would take them to the family's 160-acre Cañon del Coyote tract that his family had homesteaded at the turn of the previous century.

Valdez (5532) explains that sheep are a little more difficult to run than cattle because they require constant attention. If a family ran sheep, they had to do so exclusively on private holdings because the SFNF apparently did not have a permit system for grazing sheep (Valdez (email to Kurt Anschuetz, September 2, 2013). Furthermore, to run sheep in the mountains, a rancher needed larger numbers of animals to make it worth his while, as well as to provide a shepherd to watch the flock.

While growing up in Espanola, Fred Vigil (5661) helped his father with the family's livestock. His father and grandfather always had cattle, which they grazed in the Jemez Mountains, up to the edge of the Valles, during the summer. As members of the Bartolome Sanchez Land Grant, the Vigils ran their livestock on grant lands next to the Espanola City limits during the day over the winter, returning the animals to the corral kept at their property in town each night (5667).

Vigil was still young—8 or 9 years old—when he first accompanied his father into the Jemez Mountains. He continued to run cattle in the mountains all summer from the 1960s into the late 1970s, at which time his father sold the family's cattle operation while Fred was away for his military service (5666, 5677, 5678, 5680).

Vigil and his (much) older brothers helped their father during cattle drives, branding, vaccinations, spraying, and everything else that needed to be done (5663). The cattle drives into the mountains—two days going up and one day coming back down—were his favorite.

The cattle drive up the mountain took place at the end of May and consisted of 35 cows with calves (Vigil 5664). They held a SFNF permit in the Jemez Ranger District on a tract about one-quarter mile east from the Baca Location fence.

Vigil (5668) recounts the route for driving cattle into the Jemez Mountains from Espanola. The first leg ran along the Bartolome Sanchez Land Grant boundary straight up 31-Mile Road to Cerrito Blanco. From there, the route dropped into Santa Clara Canyon, which they then followed up into the mountains.

Four other permittees also used this trail (Vigil 5668, 5690). Although a number of ranchers drove their herds along the trail on the same day, they kept their herds separate. The

ranchers did not like the herds to mix because the bulls would fight. These other cattlemen came from Espanola, Chamita, Corral de Piedra, and elsewhere in the Espanola Valley.

The older men would coordinate amongst themselves to organize a sequence of the annual drive (5670). The cattleman also coordinated with the Santa Clara Pueblo. Each family would stop at the Ranger Station in Santa Clara Canyon to make arrangements and to pay fees to cross the Pueblo's lands (5671). Vigil's father was fluent in Tewa.

The Vigil Family men would prepare for the cattle drive for about a week (5669). They would leave the house early on the morning that the drive began. Vigil (5673) recalls that they, along with the other cattlemen, would spend the night in Santa Clara Canyon, allowing their herds to move slowly up the canyon overnight. On the second day, they would take the animals up to their lease area in the Jarocito locality of the SFNF. They would spend the night there and then return home the following day (5672, 5673).

Vigil (5686) recalls that a particular spring, the Ojito Frio, was a "must stop" on these treks. The spring is near the portion of the Baca Location now owned by the Pueblo of Santa Clara. (At one time the land was part of the Tafoya Land Grant.) Some of the men would stop and wet their *mollera* (the top of their skulls that had been soft when they were still infants) in traditional custom.[127]

The Vigil Family cattlemen would return to the mountains every other weekend to check their herd, regroup the animals if they had dispersed, inspect the fences, see if the cattle were in need of salt, etc. (5674). They would move the herd to another meadow if the cattle were in danger overgrazing a particular place (5675). Vigil (5750) explains that overgrazing happens when the animals are unduly confined. He maintains that his family never had a problem with overgrazing.

In mid-summer, Vigil (5676, 5694) and his family drove the cattle into the woods so the animals could eat *patitos* (bush peavine [*Lathyrus decaphyllus eucosmus*]) for a week or two.

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[127] Vigil (5687) explains that a similar kind of tradition is for local youths not to swim in the river or ditch until the Feast Day of Saint John the Baptist (June 24).

This break from the meadows would also give the grass time to replenish. With the fall's arrival, they would know where their cattle were because the animals tended to stay in the Jarocito, which was "our area to pasture" and the cows' *querencia* (home [see also *Querencia/Topophilia* in Chapter 14]) (Vigil 5675).

The Vigil Family would go into the mountains for the Fourth of July. "That was a big day for us" (Vigil 5718). They would brand the calves born in the mountains that spring. Vigil continues by noting that the other permittees would brand their animals either the week before or in the weeks that followed. He explains that the permittees staggered their branding to minimize the mixing of herds at the communal corral. Thus, even though each permittee branded its herds individually, they coordinated their activities as a community.

Noting, "We don't get as much snow as we used to" (5787), Vigil fondly remembers that there still would be deep banks of snow on the north slopes of the mountains even during the branding season (5719). The cattlemen would use the snow to refrigerate their perishable food. They also used the clean snow deep inside the snow banks for drinking and washing dishes. Vigil observes further that relatively little snow now reaches the ground today; it is held in the tree tops.

Vigil (5679, 5786) took over the family's cattle operation while he was still in high school. He made plans and decisions, and reported to his father about what he saw, what the cattle were doing, and what was missing. He learned much from this responsibility, as well as continued learning about what was needed to run cattle in the Jemez Mountains.

He says that he did not want his father to sell the cattle operation (5861). His father, however, said that "he did not want any of us to make a living on just ranching alone, that we should get educated and move forward" (5861).

After finishing his education and making his own life as an adult, Vigil started his own herd in Medanales (5861). Although he can grow all the hay on his property that his animals need for the winter (5707), he lacks access to necessary summer pasturage in the Jemez Mountains because new permits were unavailable and he could not afford to purchase a permit from an established rancher who was quitting the business. The problem, Vigil (5746) maintains, is that the present permitting process disenfranchises knowledgeable and experienced

cattlemen. That is, they cannot run livestock on public lands because they can only acquire a permit through the purchase of another rancher's herd, which, as Vigil observes, represents the purchase of value-added livestock.

Vigil had no alternative other than to rent summer pasturage in Tierra Amarilla. This setup did not work economically, and Vigil was forced to sell his cattle in the mid-1990s (5682).

When asked to talk more about work that the ranchers did in the mountains, Vigil (5691) responded that his family, just as every other permittee, had a preferred camping area, which they monitored and maintained. There was no littering; people packed out what they carried in when they went into the mountain (5685). The Vigil Family had—and still has—a big wooden box (*cajon*) for all of their camping utensils.

He reminiscences that there was "always water in the *ojitos*. (springs)" (Vigil 5695) even in the worst drought. The permittees built corrals around the springs to protect them from trampling by the cattle. To clean a spring is to *ayudar al ojito* ("help the springs") (5695). Back then, the springs were so clean that a person could drink the water without concern (5685).

The permittees would fix fences and get together to repair the big communal corral (5691). Each permittee also took responsibility for maintaining different sections of the trail upon which they depended (Vigil 5690). Each section had a name, and the Vigil Family had tended the section of the road from Ojito Frio to the first gate on the National Forest. They kept the road clean and worked to keep "the water off." They pruned trees along the road of their low branches, which they placed to prevent erosion of the road, and cut wood to take home. They cached an ax in the forest for this purpose.

Vigil (5694) summarizes that the ranching practiced by his family and the other permittees was based on stewardship. They would have meetings and decide what work was needed; they were not supervised by the Forest Service (5692). The permittees understood that repairs, maintenance, stream cleaning, making sure that the *ojitos* (springs) were protected and flowing properly, and keeping trails wide enough for the horses and cattle were their responsibility.

Vigil (5694) says that they did not need to be told what needed to be done or how to do it. Each cattleman had a responsibility for particular tracts and activities. Besides, neither the Vigil Family members or the other permittees ever had much with Forest Service Rangers; their relationship primarily was with the Santa Clara Pueblo's Rangers.

Everyone could trust that he would to what needed to be done, although nobody would dictate how he should do it (Vigil 5742). Different techniques were acceptable as long as the job was done to the best of a person's ability. Also, those cattlemen would learn from one another by watching to see what each person did and what each person had accomplished.

He steadfastly believes that "cattlemen really want to protect environments" (Vigil 5709) and subscribe to a stewardship ethic in which they work with the land to sustain it over the long term (5725). He maintains further that cattlemen do not want to take their cattle to places that are overgrazed (5709). Vigil credits his father for knowing how many cattle the Jarocito could support and would not take more cattle into the mountain then this pasture could feed (5725).

Vigil contends that cattlemen understand how important ranching is to their families' traditions, as well as their economies. Citing their care in moving their animals every two weeks to allow the grass to rest and recover, and their efforts to maintain the springs and roads, Vigil holds the conviction that ranching can have a lot of benefits (5709). He is troubled that fewer cattle are in the forests to help keep them clean, just as there are fewer permittees to maintain the springs and trails (5688).

Farming

> *People were planting all throughout that area.* Tito Naranjo (4329)

Gregory Cajete (3912) had family members who farmed in the eastern Jemez Mountains foothills on the Pueblo of Santa Clara Reservation. His family lived in Guachapange, which the federal government purchased for the Pueblo around 1920 and had farmland close to their homes. Irrigation water for growing corn was diverted from Santa Clara Canyon, which Cajete identifies as an essential part of his family's life, and that of his community as a whole. While

corn crops were planted in lower settings, a good deal of bean farming formerly took place in the band of heavy piñon woodlands at elevations between 6,500 to 6,800 feet (3913).

Cajete (3938) reports that Santa Clara Pueblo was able to maintain its claim to the Santa Clara Canyon watershed, in part, because of the continuity in its farming traditions in the canyon. The Pueblo focused much of its activity within a 5- to 10-mile-wide strip, which extended up the canyon from the edge of the Rio Grande Valley to the Valles Caldera. "We were able to show that there was continual use of the Tribe into modern times" (3938).

Tito Naranjo (4322) remembers that Santa Clara Pueblo's people still were subsistence farmers when he was a child in the late 1930s. His maternal great-grandmother, Gia Kuhn, owned all of his mother's family's farmland, just as she was the steward of all of her extended family's food, including corn, beans, squash, jerky, fresh meat, and seed, which she kept in the storage room attached to her living quarters (4333).[128] She had corn fields along the Rio Grande bottomlands and acreage for bean fields on the Pajarito Plateau behind the Pueblo's ancestral home of Puye (4322). His father's corn fields—and those of his extended family—were near Shufinne, another of Santa Clara Pueblo's important ancestral villages, in Santa Clara Canyon (4341).

The traditional practice was for Santa Clara's farmers to plant corn and to clean the ditches down below the Rio Grande first (Naranjo 4326). After planting their corn fields, they then would go to the fields on the Pajarito Plateau to plant beans. Naranjo (4342) identifies one of these places as a high plain, which ranges in elevation between 8,500 and 9,000 feet, called "Where Rats Have Diarrhea." Within this locality there is a setting known as "Warm Canyon." Warm Canyon's name derives from the fact it is south facing and picks up sunlight. Crops grow faster in this otherwise cool, high-altitude setting.

While his family members worked from their homes when they tended their lowland corn fields, they relied upon small log cabins equipped with beds and cook stoves when they

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[128] Seeds were saved at least three years before Gia Kuhn distributed them to family members for planting (4334). Because the community suffered droughts, Naranjo's great-grandmother saved enough food for her extended family, including many children she was raising who were not relatives by blood, to carry them through hardship.

cultivated their fields in the uplands (Naranjo 4325). Naranjo (4343) recalls hearing that his father would live with a great, great-uncle in one of these Pajarito Plateau farmsteads most of the summer to plant and tend bean fields, while other members of his grandfather's family members took care of the corn fields closer to Santa Clara Pueblo. There was a division of labor.

Naranjo talks about seeing the rubble mounds of former farmsteads and finding old potsherds when he helped plow his family fields when he was young man:

> We knew that we were [farming] right amongst the people who had lived there and [had] done the same thing—I don't know how many—hundreds of years earlier. [4329, also 4337]

Many of the mesa top bean fields depended on direct precipitation, including rain and snow.[129] Naranjo (4329), however, also mentions an "arroyo like" planting area, which receives seasonal runoff, in the canyon's bottomlands near Puye. He explains that farmers could dam water in this location during the time of spring runoff (4324), thereby allowing the moisture to sink into the ground for the plants to draw upon when they needed it during the summer (4342). The people would also harvest this moisture for drinking and watering their horses by digging shallow, expedient wells in the sand.

During his interview, Naranjo was reminded of a story that his mother, Rose, had shared during a community agricultural workshop in the late 1990s. She remembered spending the summer at the family's upland bean fields with her brothers and sisters when she was five years old. Her task was to help protect the vulnerable crop from predation by animals and birds. Rose and her siblings, in effect, were "human scarecrows" (after Swentzell 4585). Although they were but children, Rose and her brothers and sisters pitched in to help the family tend its fields.

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[129] Although outsiders readily comprehend the importance of rainfall during the growing season, relatively few are aware that the snows and rains during the long span between the harvest of the crop in the fall and the planting of fields the following spring are essential for recharging the moisture content of soils. Moist spring soils are necessary for the germination of seeds and early growth of plants during May and June, which are typically the driest months of the year in north-central New Mexico, until beginning of the summer rainy season in July (Tuan et al. 1973).

Naranjo (4340), upon hearing this retelling of his mother's story, recollected that when he was a child, he was similarly charged with the duty to protect the family's fields from birds. Sometimes he would use a bow and arrow, but most of the time he used a leather sling. Naranjo remembered that while he and the other children played along the fringes of the field for the whole day, they kept a bunch of pebbles at the ready for those times when a hen turkey would bring her chicks into the fields to eat the young bean plants. When the children killed a bird, they would cook and eat it.

Porter Swentzell (4563, 4586) similarly reminiscences about helping protect his family's fields on the Pajarito Plateau from pests when he was a young boy in the 1990s. He also helped irrigate and weed crops using hand tools because his mother did not then have a tractor. Through observation and storytelling, Swentzell learned how much water to divert into a canal without causing erosion damage to the lower end of the field or leaving parts of the crop too dry because he allowed the water to flow through the field too quickly.

Peter Pino (4439) talks about Zia Pueblo's agricultural use of the Jemez Mountains by first reviewing his community's culture history and his people's dependence on the mountains for their life. He shares that Zia's people initially settled in different regions across the northern Southwest. "I've always talked about potsherd trails from Zia to Mesa Verde in numerous sites in between" (4444) that trace the movement of the people to their present home in the lower Rio Jemez Valley.

Just as the other Ancestral Pueblo people, they became farmers when they realized they would not have to forage constantly if they planted crops in the spring that they could then harvest in the fall. "Once they started to farm, they realized that they had to stay with their crops. [There was] ... not much of an irrigation system at that time" (Pino 4442).

After moving from the Four Corners region, Zia Pueblo's ancestors first established Pueblo "sites up in the Jemez Mountains" (Pino 4464) that figure prominently in the community's early history. After living up there for some time,

> they eventually came down to this lower area because that's where the [river] water starts to spread. It's easier to divert the water when it's not deep or constrained in a canyon. [4464]

Pino observes further that spreading water also moves more slowly.

Pino concludes that his ancestors were drawn to his Pueblo's present location by the availability of permanent and seasonal water flows that this setting provided for growing crops. He continues by characterizing Zia Pueblo as occupying a perfect location, which affords the people access to both sides of the Jemez River (4451, 4461), which originates in the Valles Caldera high in the Jemez Mountains (4466), for irrigation. "It was our ancestor's decision to call this home, and it's been home ever since" (Pino 4463).

Pino (4461) also observes that his community's placement maximizes the possibilities for agriculture given that water flows and precipitation patterns change from year to year. Zia Pueblo's people

> were pretty well off. They were irrigating from the Jemez River. They were also building dry farming and relying on some of the arroyo waters that flowed from time to time after a rainstorm. [4446]

Pino explains that the Jemez River's then permanent (or nearly permanent) flows gave Zia's farmers the assurance that they would always have some water for crop irrigation. The multitude of washes that form the watersheds of the Cañada de las Milpas and Piedta Parada drainages (4447), which are south of Zia Pueblo and flow north toward the Jemez River Valley as meandering seasonal streams (4456), are important in another way. Although they run with water only during times of soaking rain, they are the basis of the Pueblo's traditional *na baamu'* (runoff irrigation) agricultural technologies to give fields that are otherwise dependent on direct precipitation with essential supplemental moisture. These scattered drainages also enable the people to distribute their fields widely across the landscape to protect them from the vagaries of the region's uncertain environment.

He adds that Zia's farmers built about 3,000 acres of grid gardens and terraces on mesas forming the foothills of the Jemez Mountains northwest of the Pueblo of Zia (Pino 4443). Zia's ancestor's brought these field technologies, which were dependent on rain and snow for water, with them when they first moved into the Jemez River Valley,

> but while in this area, they slowly learned that they could take river water, divert it, and use the water to water their plants and their crops. All of a sudden, rivers became very important bodies of water. [4443]

Pino (4521, 4522) discusses Zia Pueblo's use of the Rio Jemez's waters for irrigation today. The snowpack runoff season lasts from March until the end of April or the beginning of May. The Pueblo does not use river irrigation water until around April 15. Half the snow melt runoff has already passed by the Pueblo by this time, yet the community's farmers have only begun to plant their fields. Pino (4521) reports that chile planting needs to be complete by May 15, with most of the crop being planted between mid and late April. Zia's farmers plant corn from early May to mid-May.

Pino (4522) states that Zia Pueblo would like to capture and store some of the Jemez River's spring flows in a pond. It would then use this water during June, which is always a dry month, and early July before the monsoons arrive. The State of New Mexico and the U.S. federal government both have said that this proposal is not feasible, stating that Indian water rights are not supposed to impact the water compact that New Mexico holds with the State of Texas (4523). Nonetheless, Pino maintains that the people of the Jemez Valley, including the Zia Pueblo's Hispanic neighbors, are all in agreement that the storage pond proposal is the solution that they need (4522). His comments underscore the indispensable idea that the residents of a watershed, regardless of their background and ethnicity, form a community (see also *Watersheds as the Basis of Land Management* in Chapter 15).

Roberto Valdez (5522) states that his forebears, just as Zia's, focused their attentions on managing runoff from the Jemez Mountains' needed for their agricultural sustenance upon their settlement at Cañon del Coyote. It was only after they dug their irrigation ditch that the people would have begun clearing or improving existing natural clearings in the woodlands.

Hilario Romero (5276) provides useful cultural-historical context relevant to Valdez's remarks. He describes the traditional Hispano system of land management in terms of the watershed management (see also *Watersheds as the Basis of Land Management* in Chapter 15). Settlers had to work the land grant for four consecutive years to earn a land-grant designation.

Land grantees first needed to build an *acequia*, which was characteristically placed on the high ends of a valley's flanks to allow them to supply the land in the widening valley below.

Parcientes (members of the community's *acequia* association) shared whatever water was available using a system of allocations based on time of water use, not a set quantity of water (Romero 5276). In this management system, each of the individuals who had rights received water during times of abundance and scarcity alike. At the end of a community's *acequia* system downstream, surplus water was returned to the river from which it had been diverted originally.

Speaking of the *acequia* upon which the Hispanic settlers of the Jemez Mountains depended, Romero asks and answers a rhetorical question: "Are we altering nature? In some degree you are, but you're not damming it up...*Acequias* are a feat of engineering" (5277). The feat of the traditional community *acequia*, Romero adds, is all the more remarkable because people designed and constructed sophisticated water management systems for use by many families without the benefits of survey instruments and powered machinery throughout much of New Mexico's Spanish colonial history. He finishes, "There is an intimacy" (5278). The people knew how to live with and use *acequias* intuitively.

Debbie Carrillo (4808) states that her maternal grandmother's family had a house and mill in the small settlement of Los Rechuelos, which is located on Lovato Mesa high in the northern part of the Jemez Mountains, during the nineteenth century. The mill was a two-story *jacal* structure, with the mill machinery in the lower story and the family's quarters in the upper level.

D. Carrillo (4813) also recounts that the people of Abiquiu traditionally would start agricultural plants in in their root cellars in the early spring when it was still too cold outside and the threat of frost was still too great. They would transplant the crops to the fields when they were 8 to 12 inches tall, temperatures were warmer, and the risk of frost was greatly reduced. Abiquiu's farmers, therefore, effectively "lengthened" the Jemez Mountain's agricultural growing season this way.

CHAPTER 14
VIEWS, ATTITUDES AND PERCEPTIONS OF THE JEMEZ MOUNTAINS BY TRADITIONAL AND HISTORIC COMMUNITIES

> *My dad used to compare [the Jemez Mountains] to a pearl in an oyster. Out of grain of sand that irritates the oyster, he develops something beautiful, but it took the life of that oyster to make it. That's the way our mountains are. It takes them years, but when they finish, the product is priceless. That's my dad's way.* Gilbert Sandoval (5432)

Traditional and Historic Use Areas

> *The people who lived on the west side of the Espanola Valley primarily used the Jemez for their fuel, their wood, their grazing, all those kinds of things.* Gregory Cajete (3918)

Anthony Armijo identifies the Jemez Mountains as highly important to many different aspects of Jemez Pueblo's culture and history:

> We have established very intimate relationships with that landscape... and Redondo Peak is the highest point within our community, our landscape, and our region. [307]

Armijo explains further that the Valles Caldera, which represents the focus of this Pueblo's traditional use area in the Jemez Mountains, is the source of the water upon which his community depends for its existence:

> The landscape up there reaches up to the sky and embraces the moisture in the clouds, and fosters the raining and the snowing of that landscape. [311]

This water finds its way by gravity to the canyons that feed the Rio Jemez (312). It also is expressed as springs, from which either cold or hot water flows, throughout the region (310, 312).

The importance of the Jemez Mountains is conveyed in Jemez Pueblo's symbolic representations of its identity. Armijo shares that Jemez people see the outline of an eagle in the grass-covered south face of Redondo Peak, especially in the winter when snow covers the ground (351). This image possesses such significance that Jemez Pueblo has adopted its likeness as the community's tribal symbol (362) [Figure XX]).

Because Redondo's eagle-shaped grassland area is iconic of Jemez Pueblo itself, Armijo states that Jemez Pueblo has requested that the VCNP's managers treat the grasslands to maintain the outline of the eagle (352). He adds that a devastating wildfire across Redondo Peak and the Valles Caldera as a whole would adversely affect the essential quality of life of his community because the Jemez people are so connected to their landscape in ways that transcend material concerns, such as tree loss, erosion, and flooding (after 364).

Gregory Cajete began accompanying his family into the Jemez Mountains via Santa Clara Canyon when he was a child.

> I think for all of the community, the Clara Canyon was the place where you 're-created'...We collected wood, and, of course, we have an intimate relationship with the lands that are [the] Pueblo's traditional aboriginal lands. [3893]

He maintains that the Jemez Mountains' hot springs, wildlife, sources of food, and waters all contributed to this landscape being a special place (3944). The mountain was their livelihood (3957).

Cajete (3946) emphasizes that his experiences were relatively limited in terms of geographic space. For example, his family did not go north into the Cerro Pedernal and Abiquiu areas, or even to the Rio del Oso, the next major canyon north of Santa Clara Canyon. His

family also would not go south to San Ildefonso's traditional use area either, which includes Garcia Canyon, the first major named drainage south of Santa Clara Canyon's watershed. "[O]nce in a while" (Cajete 3895), his family would take him to the Santa Clara Canyon's headwaters on the south flanks of Tsikumu, his Pueblo's Mountain of the West.

Cajete re-stresses that the Santa Clara Canyon watershed is very important to his Pueblo (3894). He adds that his kind of hands-on familiarity with the Jemez Mountains' lower slopes is a common experience among the people of his generation. There was a "real engagement. It was kind of year-round activity" (3914).

"Everyone had a sense of '[Santa Clara Canyon] was our place'" (Cajete 3946). This drainage also represents Santa Clara's pathway to the center of the Jemez Mountains, the Valles Caldera.

Cajete continues by talking about how the people of the area's traditional and historic communities dependent on the Jemez Mountains tend to view the Valles Caldera from the perspective of their community's particular pathway. This pathway is what lends itself to "intimacy" and "orientation" (3949). Despite the fact that each community maintained culturally meaningful ties with the Valles Caldera,

> For a long time, it was common meeting ground. It didn't belong to anybody, but everyone used it in their need. And they respected that it didn't belong to anybody, but belong to everybody and to use it appropriately. [3951]

According to Cajete (3921), each of the many Pueblo and Hispanic communities from San Ildefonso to Velarde looked generally to the Jemez Mountains as a whole as their principal range for fuel gathering, plant gathering, and piñon picking. Traditionally, each community held preferential use rights to a strip of land around their pathway into the mountains. Cajete explains this land use organization:

> Very early on, people worked out this kind of cultural management plan. It was based on where you live and based on the places that you visited to obtain your fuel wood, where you hunted, where you collected plants. That was usually within a half day walking distance from one end to another. [3947]

Collectively, these neighbors respected one another's strips:

> The old-timers kept this kind of understanding. I'm not sure if anything was ever negotiated or said, but people sort of used their section of the mountain in ways that were appropriate... They wouldn't go and pillage for piñons in another's backyard, but that did start to happen after my grandmother's generation... Now it's no holds barred. [3922]

Cajete (3919) recounts further that the Rio Grande represents a traditional kind of "line of demarcation" for the overall land-use organization of the area's communities. Whereas the people on the east side of the valley used the Sangre de Cristo Mountains, the people on the west primarily looked to the Jemez Mountains for their livelihood (3918). Regardless of which mountains they favored, "They would circulate around" (3918). Although he is unsure if these practices were strictly based on convenience or tradition, Cajete describes these patterns of land use preferences and movements as a way through which people insured that they did not overuse the mountains.

Anthony Moquino (4264) remembers that his family looked to the Sangre de Cristo Mountains to the east, for many of their "utilitarian" activities, including ranching and harvesting cedar wood needed for baking bread. He recalls accompanying his grandfather in a wagon during many outings. The Jemez Mountains, in comparison, are important because they represent the "other livelihood" (4265), involving spiritual matters and traditional cultural practices. They are highly charged with both positive and negative energy (4257). Moquino shares that his community's religious leaders keep the Pueblo's privileged traditional cultural knowledge of the Jemez Mountains that are important to his Pueblo (4268, 4279), with Tsikumu representing a "premier" place within this spiritual landscape (4263).

Because there is so much Spanish use on the west side of the Rio Grande, access was carefully scheduled and people always went into the Jemez Mountains in a group. Moquino notes that SFNF Road 44, which passes Santa Clara Peak and Tsikumu, is a principal route that his community members follow today on their way deep into the Jemez Mountains.

Importantly, Moquino does not venture into the Jemez Mountains recreationally (4262). He is always part of a family or religious group.

Hena believes that because his is "an outdoor family," he probably began to get to know the Jemez Mountains while he was "still in diapers" (4056). He recalls that his trips into the Jemez Mountains went as far north as Tsi'pin (an ancestral home), Coyote, and Regina, as well as far west to Cuba on the mountain's west flanks (4058). They characteristically entered the range through the Pueblos of Cochiti, Jemez, .and Zia.

Hena's family members were not alone in maintaining ties with the Jemez Mountains (4059). Many other families undertook activities similar to those as the Hena Family, while various tradition keepers would complete rites on behalf of the entire Pueblo.

Peter Pino shares that the people of Zia Pueblo "look at the Jemez Mountains as a place where Nature deposits our resources" (4465). He adds that before Spanish colonization and policies that tried to limit the people's access to lands outside the land grant deeded to them by the King of Spain, "we had use of this whole area" (4465).

The Zia Pueblo Grant was just the innermost core of Zia's traditional area of stewardship (Pino 4474). The Pueblo was as dependent on the Jemez Mountains to the north, just as it was dependent on the sandy arroyos to the south. He mentions that Zia Pueblo traditionally has shared the middle part of the Jemez Mountains with many other Pueblos, including Jemez, Santa Ana, San Felipe, Kewa, Cochiti, Tesuque, San Ildefonso, Santa Clara, and Ohkay Owingeh, which live immediately within this range's foothills (4474). The Valles Caldera cannot be claimed exclusively by any one community.

He relates that the people from Zia went up to see Redondo Peak soon after the federal government purchased the Valles Caldera a decade ago (Pino 4540). The people had not had official access to Redondo Peak for more than 70 years. He mentions some of his community's activities to re-establish physical connections that had been dormant for so long (4541-4544), although he makes clear in his comments that his Pueblo's traditional spiritual ties to the mountain had never lapsed.

Tito Naranjo began learning about his Pueblo's traditional use areas in the Jemez Mountains as a young boy. "We learned the entire canyon system all the way up...to 'Where All The Springs End' on the northeast side of the Valles Caldera" (4348). He shares that he learned

much about all of these places in the mountains from his father, who Naranjo always accompanied on hunts (4353).

He states that the people had always viewed these headwaters of the Santa Clara Canyon watershed, of which the Pueblo of Santa Clara received approximately 5,000 acres when the U.S. purchased the Baca Location, as "our land because we used it ever since whenever" (4348). Additionally, he learned all of his Pueblo's wagon roads and footpaths that lead into the heart of the Jemez Mountains (4344), including the trail by which Santa Clara's men would enter the Valles Caldera (4349). He came to understand "that our people... or people who talked the same language as we do" (4350) lived at Tsi'pin at the north end of the range.

Naranjo (4342, 4351) recounts some of the places in the Jemez Mountains known to the people of his Pueblo.[130] He cites the mountain named "Woman Carrying the Pot on Her Head" as an example and adds that community members also gave names to each of the bends along the length of the Santa Clara Canyon because each bend has special significance. Naranjo speaks of "Rams Head Mountain," which is a half-bald peak northwest of Los Alamos.[131] From there, extending to the west is the "Fish Tail Ridge," which is very rugged terrain carved by cliffs and canyons.[132] Naranjo mentions further that members of Santa Clara Pueblo maintain many shrines and other places in the Jemez Mountains of importance to the people of his Pueblo.

Porter Swentzell states, "The Jemez Mountains [have] always been important, but maybe not in a conscious way, to me" (4580). He does not think about the Jemez Mountains in an abstract way. To Swentzell, these peaks are "The Mountain" (4581), as opposed to the East Mountains (i.e., the Sangre de Cristo Mountains). "They were always there. They were the mountains that you looked at when you woke up in the morning" (4582).

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[130] Much of this knowledge is privileged and cannot be shared with outsiders (Naranjo 4342). Some place names are also gender specific among Pueblo's own members. For example, Naranjo learned about many places in the Jemez Mountains that his sisters did not.

[131] "Rams Head Mountain" is usually labeled "Caballo Mountain" on published maps.

[132] "Fish Tail Ridge" refers to the area identified as "Turkey Ridge" and "Indian Point," both of which overlook the Sierra de Toledo, on published maps.

Although the Santa Clara Pueblo Grant crosses the Rio Grande to the east, he describes it as "very fortunate" that his Pueblo's homeland extends deep into "The Mountain" to the west (4583). The Pueblo has fishing lakes, hunting grounds, woodcutting areas in "The Mountain." "Everything was always there... We would rarely go to the eastern boundary" (4584). In fact, Swentzell says that he does not recall harvesting resources from the East Mountains while growing up in Santa Clara Pueblo.

His family has a large ranch on tribal land on the Pajarito Plateau foothills in the Santa Clara Canyon area near the important ancestral village of Puye (Swentzell 4580). Following an age-old tradition of his family, as well as his community as a whole, Swentzell's family spent extended parts of several summers on the ranch while he was growing up. They would gather wood, piñon nuts, wild onions, etc. (4581), as well as grow crops.

For Debbie Carrillo (4694), home is Abiquiu and the Town of Abiquiu Land Grant on the northeast side of the Jemez Mountains. She is not a member of the Land Grant; however, her maternal grandmother has land rights.[133]

Grandmother Trujillo regularly took D. Carrillo and other family members to Vallecitos, which is near the southeast corner of the Town of Abiquiu Land Grant, to gather plants and cut wood (D. Carrillo 4695). She recalls that the patchwork of open pastures across the top of Lovato Mesa formed the principal thoroughfare for movement from one end of the land grant to the other (4763). The system of pathways that linked Abiquiu with Vallecitos extends 2.75 miles farther south to Los Rechuelos in the Rio del Oso's headwaters and all the way to Espanola via Santa Clara Canyon (4724). D. Carrillo (4725) reports that although many of the roads were passable in her grandmother's pickup, the trail from Vallecitos to Los Rechuelos was difficult because it was narrow, rugged, and steep. Even when she was still a child, this route was only passable on foot or in a wagon pulled by an excellent team of horses (4727).

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[133] D. Carrillo (4694) explains that all but one of her maternal family members lost their historical rights because of legal actions after the land grant community had defaulted on its taxes. The land grant's financiers set new policies, whereby only one person could inherit the family's land rights. D. Carrillo's grandmother held the land rights during her life, and she passed these rights on to Floyd Trujillo (D. Carrillo's uncle), who has passed the rights to her cousin, Virgil Trujillo.

D. Carrillo's (4807) family's range extended roughly 4 miles southwest of the land grant to include Polvadera Peak, it but not did not extend west to Cerro Pedernal, which marks the north margin of the Jemez Mountains some 11 miles distant from Abiquiu.

As a child, D. Carrillo (4802), felt comfortable in the forests of the Town of Abiquiu Land Grant where she grew up, especially those around Vallecitos and Los Rechuelos. They were not wilderness; they were home. More distant forests, such as those near Cerro Pedernal and Cañones, however, were not so comfortable for her. She would stay closer to camp when her family travelled far outside the land grant because of her lack of familiarity with the local woodlands.

D. and Charlie Carrillo (4809) report that Vallecitos and Los Rechuelos originally were occupied year-round by individuals who had ties to Abiquiu and its land grant. These small hamlets persisted as year-round settlements until the 1940s, at which time most people finally moved to Abiquiu because of a lack of water. At the peak of these settlements, circa the end of the nineteenth century, there were close to 200 families living in the northern extension of the Jemez Mountains.

D. Carrillo's grandmother recounted that there could be as much as 4 to 5 feet of snow on the ground at Vallecitos during the height of the winter. In fact, there was so much snow that people would dig tunnels to the outhouses, the chicken coops, the *horno* (traditional beehive-shaped, mud brick oven), and the wood pile. Her grandmother hated all this snow. She would say, "Snow is misery" (D. Carrillo 4814).

She recalls one man, a fellow who is now in his 50s still lived up in the mountains year-round until he was injured in an accident in recent years (4816). D. Carrillo shares that some of her neighbors maintain small summer houses in the mountains and winter homes in Abiquiu (4810, 4816).

Gilbert Sandoval (5327) describes the traditional Hispanic settlement system in the Jemez Mountains. Within the San Diego Land Grant, for example, parcels were designated for habitation use, with the main body of the land grant being set aside for the sustenance of the people. The Land Grant also designated parcels to support community schools. He adds that the renowned "Schoolhouse Mesa" outside Jemez Springs owes its name to this practice.

Sandoval (5329) adds that within the areas reserved for habitation use by the land grant's families, houses were historically built in locations that overlooked the agricultural lands, and he notes that his family's older houses were placed up against "the mountain," in compliance with the practice that people traditionally placed their homes above the irrigation ditches whenever possible. Moreover, the leader of a land grant community would also dedicate land for a church (5331).

Hilario Romero's relationship with the Jemez Mountains is grounded through ancestors who were related to Luis Maria Cabeza de Baca, who was the recipient of the Baca Location No. 1 grant. Romero maintains that Cabeza de Baca's heirs, who were heavily involved in in Santa Fe politics,[134] "lost their land ethic" and "were ready to sell" (5263).[135] They no longer held the traditional belief that "[a] land grant is a sacred trust" (5263).

Romero (5266), just as his father, grandfather and great-grandfather before him, has gone into the Jemez Mountains his whole life. His ancestors—the Cabeza de Bacas and the Romeros, who lived in Peña Blanca and La Cienega on the west side of the Rio Grande Valley (see Gregory Cajete's earlier comments), were constantly going into the Jemez Mountains.

He recounts that his family would use the old road that goes from the former Dixon Orchard into the Dome Wilderness to cut *vigas*, cut fuel wood, hunt, and collect piñon nuts (Romero 5267). Also, two men, Antonio Coca and Leo Ortega, who were *padrinos* (godfathers) for Romero Family members, went to work in Los Alamos after World War II. Romero (5268) recounts that his family would visit these men for fishing trips and picnics. He even visited Valles Caldera, which his family referred to as "Redondo," during one of these trips.

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[134] The interested reader should read Anschuetz and Merlan (2007).

[135] Romero explains the loss of traditional land ethic among Luis Maria Cabeza de Baca's heirs is partly attributable to the Baca Location's distance from Las Vegas, where they maintained their homes. He adds, "But I think it was more back then, the breakup of the family" (5264). Luis Maria had 3 wives and 21 children. The large number of half siblings bred rivalries. They lived in different areas: Santa Fe, San Miguel del Vado, and Las Vegas. Also, family members began marrying outside the clan, and family members increasingly began to compete with one another for the family's wealth.

Roberto Valdez (5521) traces his family's historical relationships with the different parts of the Jemez Mountains using aerial photographic maps made available on the Internet by GoogleEarth. He talks about the pathway that his mother's relatives—the Herrera Family—followed as they moved north from the Pojoaque Valley near the Pueblo of San Ildefonso into the northern Jemez mountain country during the final decades of the nineteenth century (5517). He points out El Rancho, Chamita, Vallecitos, and ultimately Cañon del Coyote where his uncle maintains the ranch that his ancestors established more than a century ago.

The Herrera Family Ranch, Valdez adds, is considered winter pasturage even though it is at the relatively high elevation of 7500 feet (5526). Herrera Family members, therefore, principally ran their livestock stock in still-higher elevations (up to 9,000 feet) during the summer in the Jemez Mountains south of Coyote (5546).

His Valdez ancestors came up from the Santa Cruz area at the beginning of the eighteenth century, stayed for a while at Chamita, and settled in the upper middle reaches of the Rio del Oso in the company of the Jaramillo Family.[136] The Valdez and Jaramillo families petitioned for a land grant in the Rio del Oso circa 1746.

From the Rio del Oso Valley settlement, the Valdez Family went north of Abiquiu to a place called La Plaza Colorada, which is on the north side of the Rio Chama. Their descendants went on to Cañones and established the Juan de Bautista Valdez Land Grant in 1807. From there, they went around Cerro Pedernal to settle El Rito Encino in 1814 (now known by the Youngsville Post Office) on the north-central margins of the Jemez Mountains. They were among the settlers who pioneered the communities of Coyote, Agua Sarca, and Mesa Poleo at the end of the nineteenth century.

Addressing the topic of his family's use of the Jemez Mountains, Valdez observes, "There is something tangible about the wealth generated by working the land in being part of it" (5635). He adds that people do not eat gold or silver. He maintains that his Jemez Mountains

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[136] One of the Jaramillo Family descendants owns the famed Rancho Chimayo Restaurant in Chimayo today.

family and neighbors possess "social capital" and the knowledge for living "on the land" outside mainstream economic and political institutions (5499, 5635).

Querencia/Topophilia

> *Querencia is not just the village, it is everything around the village. It's the use space...It's the whole landscape.* Charlie Carrillo (4838)

Although Debbie Carrillo and her husband, Charlie, currently live in Santa Fe, there is no question that her home is Abiquiu on the northeast margin of the Jemez Mountains. "I think about it all the time" (4748).

Under her beloved grandmother's tutelage, D. Carrillo never felt that the Town of Abiquiu's Land Grant's forests were mysterious:

> It was very comfortable there. I feel very at ease there. I love going up there. [4786]

> We were always aware of animals around..., but we weren't scared. Bears, you always have to be alert. You keep your eyes to the ground because there are snakes there, especially under piñon trees. [4787]

Although she never felt ownership of the Land Grant and its woodlands, she has always felt that she belonged there (4803). Based on the context of her comments, including many references to her grandmother, it is readily apparent that D. Carrillo's sense of the land grant as her home is directly attributable to her association of this landscape with her family (4804).

During the interview, C. Carrillo talks about how *querencia* is most widely associated with the place where a bull feels emboldened and takes a stand during a bullfight. He notes further that Debbie's uncle, Floyd Trujillo always said, "*Querencia* is where that foal is dropped" (4823).

The idea of *querencia*, C. Carrillo observes, is applicable to people. He started his laptop computer during the interview and read a definition of *querencia* from online entries: "A place in which we know exactly who we are. A place in which we speak our deepest beliefs" (4819,

after reading from http://wordcraft.infopop.cc/eve/forums/a/tpc/f/6351024471/m/3271055572?r=8691005592#8691005592).[137]

C. Carrillo continues by explaining that *querencia* is from the Spanish word *querer*, meaning "[a] place that you seek out...It's your favorite place (4825). *Querencia* also is informed by the "[c]ustoms of your home" (4832). He then shares an observation about himself to illustrate the point. Charlie says that he is "from" Santa Fe now, but he does feel that he is "of" Santa Fe (4824). He continues, "Home is an idea...A place where you belong from" (4824). For his wife, he concludes, Abiquiu and the Town of Abiquiu Land Grant together are her *querencia.*

D. Carrillo (4828, 4829) agrees that *querencia* is a feeling, a state of mind. She mentions how she can hear certain sounds, such as doves singing in the morning, and immediately think that she is back in Vallecitos (4818). She explains that Abiquiu, which includes the land grant,

> is with me every day. I live it. It's in my heart. Sounds, noises, sometimes smells...Charlie's piñon sap varnish. I smell that, and I'm right back in the living room [of her grandmother's house]. And I can see the tortilla and the *carne seca* (jerky)...I'm sitting there...That's the smell. I think that's the wood burning stove. [I'm] right in front of the wood burning stove...in the living room. I hold a piece of tortilla in one hand and a piece of dried jerky in the other, and I put them together. That's what I do. And then you have a little bit of piñon there. [4830]

D. Carrillo reveals that she would like a summer home in Vallecitos: "Just because it is so quiet, so serene. You can hear the birds...It's incredible what you can hear up there if you sit and listen" (4817). She admits feeling bad that she has not been to Vallecitos in many years (4826). She knows she could be there, however. She needs to know that it is accessible to her.

C. Carrillo remarks that he is saddened by the fact that their children do not similarly think of Abiquiu as their home: I think it was a sad day that when my children were born—a

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[137] See also Chapter 2 for further discussion of *querencia* as a concept.

joyous day, but a sad thing—that they never enjoy their inheritance that is due to them because they're [unrecognized] descendants of the land grant... because of the ways that the rules have been written. [4835]

D. Carrillo responds, "They don't know it, so there's no way that they can enjoy it, because they never had it" (4836). She illuminates her point by relating that their daughter, Estrella, cried when the Carrillo Family moved from Albuquerque to Santa Fe. Estrella knows Albuquerque as her home; Albuquerque is her *querencia*.

D. Carrillo surmises, "Home is where your family is that. It is where the people you love are at. That's home" (4837). She then uses the term *respect* to describe *querencia*:

> I think of that all the time... When you're up there, and the respect that we have for this land, this place... It is part of who we are, so you have to respect who you are. And you have to respect it [the land]. [4839]

Fred Vigil shares,

> My *querencias* are the mountains, the Espanola Valley, the places that I grew up in, that I have an attachment to. [5780]
>
> Something in the environment makes you want to be there... It's a good feeling. There are times that you want to be and have to be there... It's a good way... spiritually, to relax, to sink what you're doing. Get rid of things, mentally. Drop them. [5782]

He concludes that people need to know how to be open to *querencia*. "When it comes, it hits. It feels good" (5782).

He adds that his cattle had their *querencia* in the Jemez Mountains: "Our cattle would gather only in the Jarocito. Horses, too" (5780). Other people's cattle have different *querencias*. Cattlemen know and refer to these *querencias*. Vigil contends that these *querencias* are an underlying part of the people's traditional management of the mountain (5781).

Although he does not use the word *querencia* to describe his own attachment to the northern part of the Jemez Mountains landscape, Roberto Valdez clearly feels it: "There is a

long history of my people in this land... Something happens to people when you're established in a place for a long time" (5495).

He adds, "I do not have the land of my ancestors... I still have an intimate connection with the land. I demonstrate it by what I do" (5598). He explains that he continues to interact with family members in and around Coyote, and procures various resources in this locality, just as his ancestors did for centuries. Moreover, Valdez has purchased a tract at El Rito Encino, at the foot of Cerro Pedernal. This land, he reports, is unoccupied grazing land that his ancestors once had (email to Kurt Anschuetz, September 2, 2013).

In other words, by continuing to observe his community's customs, Valdez maintains his ties to his historical homeland.

While he appreciates having learned about the concept of *querencia* as a young adult, Valdez notes that, based on his memory, his family did not use the term (5530). He explains that "love of homeland" is a universal experience among the people of the mountains. "Everybody had *querencia* so you didn't need to name it" (5639).

Valdez supports his conclusion about the universality of homeland love among his people by recounting an aunt who had gone to Colorado with her husband to work for various sheep enterprises after they lost their ranch. Valdez (5538) makes the point that his aunt kept coming back to northern New Mexico (usually in the fall—September and October—after the chili harvest) in the 1980s, both to see family and to eat her "preferred foods." His aunt and uncle insisted on speaking nothing but Spanish with family and friends. Valdez recalls that she was adamant that he always practice his Spanish, because "she was witnessing the extreme attrition of the language" among her children in Colorado (email to Kurt Anschuetz, September 2, 2013).

Lastly, Valdez (5601) observes that people's intimate connections with their homeland are often demonstrated in death. He notes that there is a postmortem migration whereby people who have moved away from their native homes in the Jemez Mountains ask for their remains to be returned to their home of origin for burial following their deaths.

Education

> *Learn, learn, learn.* Traditional Tewa saying, related by Anthony Moquino (4318)

The inculcation of each generation in the traditions of their respective communities is a vital process through which key information is disseminated about the natural environment. This instruction also conveys customary perceptions, values, and attitudes that structure and inform how their members have learned to interact with the landscape to sustain their families and community over time. With information transmitted through actions and experience, not just words, Debbie and Charlie Carrillo characterize traditional education as a lesson in "living heritage" (4846).

Several participants discuss the importance and structure of traditional education in their communities. Others consider the opportunities, as well as challenges, for teaching and applying age-old lessons from the past in the twenty-first century.

Fred Vigil's educational experience exemplifies a practicum in living heritage. He grew up learning his family's history: "It was drilled into us" (5651). Both of his parents, who were born at the turn of the previous century, were natural storytellers, his mother even more than his father. Although his parents are now gone, Vigil and his siblings still get together at least once a month to discuss the family's genealogy.

His mother had a photographic memory and could recall events through association in the context of the time (e.g., the year of the big snow). In this way, she helped Vigil understand the value of paying attention to relationships throughout the environment in which he lives and with which he interacts. To this day, Vigil (5654) practices this lesson by keeping a record—not exactly a journal, he says—of important things that happened throughout the year (e.g., good gardens, freezes, when the swallows returned, how much snow fell, and birthdays and marriages).

His father taught him through keen observation and experience in nature, as well as giving his attention to what other people, such as the cattlemen with whom the Vigil Family regularly interacted in the mountains, said and did. Vigil (5693) explains his comments by

sharing that his father always carefully looked at meadows for a few moments before entering them. Once the elder Vigil spotted a *lobo* (wolf), which his son could not see because of colorblindness. He taught the youth how to cope with the limitations in his eyesight by watching his horse's ears and learning from the animal, which had been keenly aware of the *lobo* the whole time.

Another time, a bear twice got into the packets of food wrapped in a flour sack that Vigil and his father had hoisted into a tree, putatively for safe keeping while they tended the family's cattle in their Jemez Mountains pasturage (5696). Vigil's father instructed his son about the importance not only of changing how they secured their food, but also their routine. His father explained that they needed to change the patterns of their behavior at all levels to prevent the bear from associating people with food. Consequently, the younger Vigil learned to eat orange peels when he was in the forest so he would not leave a trail for bears to follow.

These experiences taught Vigil that he should not only learn from other people; he could—and should—also learn from animals in the landscape. Vigil (5784) maintains that horses, dogs, and other animals want to communicate with humans. He recounts a time when he was caught up in the mountain during a terrible storm. Vigil's horse knew where the trail was even though the ground was completely covered by hail. Citing the value of trust and the inherent power of *querencia*, Vigil relates that he has learned, "Just let the horse guide you out of here" (5784).

Vigil further recounts his environmental education included learning the value of other aspects of nature, including patterns of weather and the night sky. He offers three examples. First, he recalls that while he was growing up, the members of his family and the people in his neighborhood would watch for a certain type of cloud formation, which they would call *La Nube Tata Graviel* ("The Father Gabriel Cloud"), because it was a harbinger of rain (5788).[138] (Vigil confesses that he has never mastered how to distinguish this cloud formation on his own, however.) Second, he describes the practice of *cabañuelas*, a traditional form of weather

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[138] Robert Valdez (email to Kurt Anschuetz, September 4, 2013) adds that is has heard two other variations of this thunderstorm cloud formation, which, he thinks, is associated with hail. The variations are *La Nube Tatara Graviel* and *Nube Tata Gabriel*.

forecasting that uses the daily pattern of sunshine, precipitation and temperature experienced during the month of January, to foretell what the rest the year would bring (5789). Third, Vigil (5790) notes that he learned from the older gentlemen of the *morada* (a meetinghouse or chapel of members of the Penitente Brotherhood) how to forecast the weather by the stars and moon during the planting season. Through their astronomical observations, the men would know when to plant different crops or determine the appropriate time for certain activities, such as castrating the bulls. Vigil still applies his knowledge of this traditional practice in his garden.

By being open to learning from animals and observant of all aspects of nature, Vigil concludes, "It's amazing what you can learn in the mountain" (5783). He is concerned that people today are losing "major parts" of their culture and sense of identity because they are learning neither from their communities nor landscapes (5791).

Anthony Moquino, as a secular person within the Ohkay Owingeh community, does not have the privilege of access to the knowledge maintained by his Pueblo's tradition keepers. Although the religious leaders have maintained the Pueblo's traditional knowledge of its ancestral homes in the Jemez Mountains and other parts of Ohkay Owingeh's landscape, he had been unfamiliar with many of his community's ancestral homeland places until recent years (4268).

Moquino (4310) shares his conviction that belief makes for a better person. Nonetheless, he has the desire to know more about this Pueblo's culture and history, including his ancestor's occupation of the Jemez Mountains. He states,

> In order for us to learn, we have to go into further hallow ground... In order for the people to get the same level of meaning out of life, there has to be some level of exchange... [4318]

Moquino reports that secular knowledge can be shared (4276), and even now Ohkay Owingeh is developing ways to accommodate traditional and scientific knowledge (4297). He

notes, for example, that anthropologists have been helping to reintroduce people to some of the places that they remember in their community histories and songs.[139]

He also recalls the field trip up to Tsikumu in 2007 as part of a group of "little people" (i.e., innocents) in the accompaniment of Richard Ford and Kurt Anschuetz (Moquino 4273). He is thankful for this experience because such outings for secular community members to visit this mountain are not normally allowed.

Moquino (4311) discusses his developing relationships with the many cultural sites surrounding Ohkay Owingeh, including some in the Jemez Mountains. He states that he has a greater sense of place in his identity as a member of his Pueblo by knowing more about his community's history within its landscape.

He also mentions that he would like someday to teach a formal course about Ohkay Owingeh's homeland (Moquino 4274). In fact, he has already talked with his Pueblo's administration, several community members who are knowledgeable of Ohkay Owingeh's history, and the Governor about the possibility of developing just such a course. He also would like to see scholars and Ohkay Owingeh's members work together to compile information about the Jemez Mountains for the general benefit of the secular community.

Louie Hena states that his knowledge of the Jemez Mountains is, in good measure, a product of his hearing Tesuque Pueblo's stories, which

> mentioned places to the west... I knew places up there before I started visiting physically. Even through our songs... you could visualize through the songs, in being there physically. You'd know where you're at. [4057]

Later, he adds that the lessons about the mountain also "kind of give you a picture of what's there" (Hena 4073). He explains that place names in his native Tewa language often tell what a locality was used for (4161).

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[139] Richard I. Ford (1968, among others; see also Eiselt and Hegmon 2005) and Kurt F. Anschuetz (1998, 2005, among others) are just two of the investigators who have been working with Ohkay Owingeh over the years.

Hena allows that his understanding of the Jemez Mountains is also informed by the community's culture and history. "Our prayers and songs, they're teaching us about who we are and what we are about" (4137). This historical knowledge is comprehensive and "[i]t all goes back to the original teachings" (4178).

These traditional lessons are holistic and timeless. They emphasize the need for people to know a place, how to live with respect, and care for their personal mental and physical well-being (4108) by tending to the well-being of the greater (ecological) community of which they are a part (4109).

As he began going into the Jemez Mountains with his family as a child, Hena recalls that his training about how to interact with its resources were based on observation, not on verbal instructions or an exchange of questions and answers. "Look and learn" (4074), he says. After all, Hena explains wryly; the power of observation is the basis of all science (4205). Seriously, he explains that indigenous belief is based on rich factual observation that informs a person how to live. "I believe in that because I experience that" (4206).

Youths were prepared to step in and assist their families based on what they had seen being done (4074). Questions were relatively uncommon.

He continues by talking about people needing the mountains not just for earning their living, but also for "remembering" (Hena 4143). Just as Anthony Moquino (see above), Hena (4148, 4150) has learned to recognize and assess the places throughout the landscape, including in the Jemez Mountains, where his ancestors lived their lives and interacted with the land and its resources, including both villages and fields. This knowledge reinforces the meaningfulness of Hena's identity as a member of Tesuque Pueblo because it helps him maintain a relationship with the past (after 4180). He and his family carry tools, such as grinding stones, that they find in Tesuque Pueblo's landscape home to bring them "back to life" (422) and to remind them always of their forebears and their community's culture and history.

Peter Pino (4509) similarly shares that traditional learning at Zia Pueblo is not conveyed through verbal instruction. Rather, people primarily learn through observation; people observe what is being done and how it's being done. "You hear the people talking" (4509) while they do something. People also learn by touching, tasting, and smelling, which involves different

combinations of all five of their senses (4512). Pino (4508, 4509) explains that when an elder says, "there really isn't much to it," they are saying that the individual should go to those places and participate in those activities so they can learn it for themselves.

Porter Swentzell relates that he also grew up in an environment at Santa Clara Pueblo where people seldom ask questions about how to do something or how something works. "Instead, you get, the stony cold, 'part of you dies look'" (4571). A person is supposed to observe and listen to learn. Then they are to go out and try to apply this lesson on their own. Even if they fail at first, it's part of the learning process.

He describes his own experience in learning to irrigate:

> You're supposed to sit there and watch the water flow as it goes through your irrigation ditch, and not try to figure out why it does that... See what the water wants to do... If you're going to ask a question of anybody, ask the water. [4572]

Although still a young man (he is now in his early 30s), Swentzell (4559) tells that he grew up and received the core of his education in circumstances more typical of Santa Clara's past (before World War II) than what his contemporaries experienced growing up. He learned through endless opportunities to interact closely with members of his extended family, including his great-grandmother and her generation of relatives, who were among some of the most accessible people in Swentzell's daily life (4574, 4575).

As he recounted how he received this traditional education, Swentzell highlighted the social context of learning. "People would just go visiting, especially the older people" (4575). He adds that visiting was a common custom until recently.

Reflecting on the decline of learning based on observation, hands-on experience, and close interaction with elders through visiting, Swentzell remarks, "These traditions are something that once defined Pueblo people in many ways, yet [they] are going away" (4559).

Swentzell (4572) is critical of Western school systems based on the Socratic method of questioning and answering in the pursuit of a particular "truth." He feels that does not foster the level of observational learning to recognize and understand traditional patterns. Swentzell

(4571) observes that Indian children seldom asked questions in school because questioning is not permissible at home. Considering this contemporary environment for formal education, as well as the 24-hour news cycle with information being bombarded at people through the Internet, cell phones, and social networking, Swentzell asks, "What does that to do our ability to recognize other things that we spent millennia focused in on?" (4573).

Swentzell's uncle, Tito Naranjo, considers further the social and cultural environment of traditional learning. A significant characteristic of his education while a child in the Pueblo of Santa Clara during the 1930s was that Naranjo learned from family and other community members who could neither read nor write (4331). He learned from people who were participants in a cultural system still dependent on *primary orality* (verbal communication) (4319, 4331).

Naranjo (4331) notes that the Tewa Pueblo traditionally conveyed much of their historical cultural knowledge from one generation to the next through conversation and recitation. He talks about his great grandmother Gia Kuhn, who was born during the mid-1800s and who spoke a little broken Spanish and even less English. She passed on her knowledge from three, four, and five generations back onto him, his siblings, and the other children of his generation.

Naranjo states, "I have heard, as oral tradition passes down..., you're only the channel for carrying on that knowledge to future generations..." (4372). He stresses that the lessons of his community's traditional education based on *primary orality* is more than talk; it depends on action to be sustained (4394). That is, hands-on experience and lasting commitment in applying knowledge shared through traditional instruction are required to fulfill and comprehend these culturally-informed lessons fully (see also Chapter 17).

Observation plays a key role in the scope and structure of applied action. Naranjo (4419) speaks of the traditional practice of burning the previous year's grasses in meadows during the spring and how this action brings forth fresh new growth. He stresses that this practice is based on observation and the beneficial result is empirical. The pragmatic outcome of this activity demonstrates the veracity of the body of traditional cultural knowledge that underlies and informs the practice.

Hilario Romero, who is of a northern New Mexico rural community and a professor of History, states, "To me, History is the history of everything" (5233). In his culture of his family and community, everything is history; history is inclusive. He is critical of Western education for breaking everything into parts. To broadly paraphrase a remark that Romero attributes to his maternal grandmother, people and institutions that hold prejudices against the heritage of the region's traditional and historic communities are "*ignorante* [ignorant]" (5237).

Gregory Cajete promotes the application of traditional approaches to education in our present-day world. Both in his published writings (e.g., 1994, 1997) and interview comments (e.g., 3993, 4017), Cajete speaks about how traditional Native American education teaches the young to have empathy for the Natural World (see also Chapter 10). He talks about Santa Clara Pueblo's response to the Las Conchas Fire as example to meld the traditional with the contemporary. "I guess that my charge is to find how to navigate and bring that [learning] curve into some kind of manageable components" (Cajete 4010).

Cajete views the Las Conchas Fire as an opportunity to restore his community, the Santa Clara Pueblo, through its actions to help regenerate the burned forest:

> I'm going to try my utmost in the sphere of influence that I have, which is my own community, to try to get them to realize that this is an opportunity to build ourselves again as a community. To work with each other, to interact with each other in some very intimate and relational ways around this issue of how we bring back something that we all have experienced in common to care for greatly: the Santa Clara Canyon. [4021]

He adds that this effort does not solely pertain to Santa Clara; it is for everyone who has been affected by the fire (4022). Cajete maintains that people need to address their relationship with the fire and its aftermath. Although some people will move away, he stresses that relocation is seldom an option for the people of traditional and historical communities whose identities are rooted in their relationship with particular places in the Jemez Mountains (4022).

Cajete holds that his community, just as every community affected by the Las Conchas Fire, need to ask two basic questions:

- What are you going to do in response to this great wounding of something that you hold very valuable? [4023]; and
- How are you going to engage the next generation? [4024]

Cajete (4027) feels that the state of our current education system does not appropriately help us learn about sustainability, ecological education, and watershed protection, nor does it teach us about how to develop sound management plans. "Education is so institutionalized. No credence is given to the education of experience and the interaction over long periods of time is devalued" (4034). He maintains that people need both a direct experience of nature, such as was taught traditionally in rural communities, and an education that helps people comprehend the importance of the small tributary valleys, such as the Santa Clara Canyon, for all people who depend on the region's overall watershed (4026)

"The broader issue is how do we change the way we think in response to this major and very massive wake-up call?" (Cajete 4028). He contends that a holistic perspective, such as that taught in the traditional and historic communities, is required, just as much as a formal ecological perspective taught in universities. These viewpoints are required to give "context" to economic concern. Treatment of the many components relevant to this issue independently of one another obscures relationships and integration, thereby allowing one policy to negate another (4029). Moreover, there exists a need for continuity in the implementation of policies that have previously been initiated.

While the preceding point refers to institutional memory among managers specifically, Cajete emphasizes the necessity of vernacular memory within communities within this process. The value of traditional and historical education is that it enables people to "re-educate" themselves about who they are and how they came to be as a community so they better understand the substance and breadth of their interactions with their landscape (after 3988, 3990; see also Chapter 10).

Cajete concludes,

> Sustainability, environmental ethics, and those kinds of issues, along with diversity issues, will become the foundation of education in the future. These

> are where the battles are being fought right now, with the old guard in the old kind of way of thinking about discrete disciplines with their canons. [4041]

He expresses the hope that the work now being undertaken by the Pueblo of Santa Clara to regenerate the forest and watershed of its canyon, and the community itself in the process, will become a "case study" for other groups to consider emulating, with modification, for their own purposes (4038, also 4007). In the meantime, Cajete says that his Pueblo will emphasize the reintroduction and promotion of native plant species, which the people have interacted with traditionally, to help the healing of the forest and themselves (3974).

CHAPTER 15
TRADITIONAL MANAGEMENT:
EARNING A LIVING IN THE JEMEZ MOUNTAINS

> *The communities going out there and managing the landscape to benefit of their community, whether it be the wood, the minerals, the wildlife, the plants, the medicines.* Louie Hena (4106)

> *[I]t's tenure; it's not land ownership. It's use of water; it's not ownership of water. There's no fences.* Hilario Romero (5263)

Worldview

> *It's how the differing worldviews that relate to how you use and how you own land. I think that continues to be the underlying kind of struggle...* Gregory Cajete (3954)

Speaking as an individual who is both of the Pueblo of Tesuque and an advocate of permaculture (see below), Louie Hena shares profound insight into his worldview of traditional land management. He begins by establishing himself within the cultural-historical tradition of a community of indigenous people who have raised corn since time immemorial.

Hena refers to the native peoples of the Americas who depended upon maize for their material and spiritual sustenance as "People of the Corn" (Hena 4138). He notes further that these otherwise culturally diverse peoples do not simply share the corn seed as their "nucleus" (4139); instead, they hold certain ideas about their landscapes in common, including the essential quality of mountains in their existence. Hena (4144) observes, in Mexico, people have their

mountains, pyramids, and *cenotes* (water-filled limestone sinkholes that are renown in the Yucatan Peninsula and were revered by the Maya as sacred wells). In New Mexico,

> We have the mountains, we have our pueblos (our communities... [are] ...just like our pyramids), and we have our springs...and we have lava flow tunnels.[140] [4144]

Native life "is all about water" (Hena 4201). Water flows from the mountains to the valleys to bring and sustain prayer life in the landscape. The region's indigenous people return the favor through the "power of prayer" (Hena 4070). Hena shares, "[W]e're all praying for rain" (4071, also 4201).

Hena shares further that in the traditional understanding of his community's landscape, everything related to the Jemez Mountains is interconnected (4118). Before continuing, he quickly refers to a study in which scientists tagged certain water resources and were subsequently able to trace its appearance all over the mountain, thereby confirming what his people already knew to be true.

He uses a piece of pottery, which is on display in his father's house, to illuminate his comments. Hena shows how the pottery's painted decoration depicts the Pueblo World's three levels: (1) the "Underground," (2) "Our World" and (3) "the Sky World" (4181). He shares,

> As Pueblo people, it's all about water: groundwater, surface water, and the [precipitation] from up there ['the Sky World'] ...Even our pottery is telling us telling us our history, too, and where we're at. [4181]

He adds that members of his and other Pueblo communities move between their villages and the watersheds in the mountains upon which they depend, both in person and spirit, to maintain their traditional relationships with their respective landscapes to fulfill their sacred obligations as the land's custodians:

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[140] Hena equates *cenotes* with the lava tubes, which are common in the Jemez Mountains country.

> [W]e still do that all the time through our songs and prayers, especially, as a community, through our songs when we do our celebrations. We still visit those areas—not [necessarily] physically [but also in their blessings and dances] ... Individuals still going out there, still seeing what's there and taking care of those areas. [4184]

Hena maintains that traditional "management was about water, everything else was secondary" (4201). He expounds,

> So, when we think about water, we think about surface water... I say that our people of old were groundwater specialists, because they use this land as a sponge and that was their main focus, recharging. [4202]

In living this philosophy in their everyday, Pueblo people's trips to the mountains were not just to collect resources and fulfill their responsibilities as the land's stewards, these visits also enabled them to cleanse their bodies[141] (Hena 4185). Additionally, he characterizes the people's movements back in forth between their village centers and the mountains as possessing a "night and day effect, the flowing" (4186), which emulates the physical and metaphysical movement of water itself.

He distills his understanding of the importance of mountains to his community. They are "[a]ll that is needed for us to be a people... Amongst all of our relatives out there" (4186).

This traditional worldview, which equates plants, animals, water, and mountains in their entirety as "relatives," informs Hena's thinking that Nature is not a product: "Everything that I hold sacred has got a right. It's not looked upon as a commodity. It's got the spirit" (4208).

His "rights" ethic motivates his advocacy of "protecting who we are and protecting our relatives" (4212) in creating qualitatively "new," but community-based, management policies and practices. He expands,

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[141] Hena (4185) observes further that this cleansing is especially important after the winter.

> Right now, we're...the only ones that have a voice, where at one time, the plants, animals, and us—we all had a voice. Now our brothers and sisters don't have a voice, so we have to speak up for them. [4212]

Porter Swentzell's worldview is founded on principles conveyed through his traditional education (see *Education* in Chapter 14). These doctrines were given life through his experiences of growing up in a family committed to a permacultural ethic (see below)[142] that "relates to our Pueblo past and the belief of sustainable agriculture, sustainable lifeways" (4561). He explains that his family members "took ideas that were in the Pueblo way of thinking in the Pueblo's view of the world...techniques and agriculture, much of which is very specific to this area" and applied them in a framework for interacting with the land and its resources within an approach resembling that of the contemporary permacultural movement (4562).

To Swentzell (4610), people are not different from any other form of life. Within the worldview of the community in which he was raised, in which all things, including rocks, are alive and interconnected through a web of relationship. Therefore, people must comply with Nature's patterns.

> When we're out there..., we must behave in the same way and modify the environment in a way that is beneficial to us...In many ways, what is beneficial to everything in that 'natural' environment...is actually heavily modified by human behavior. [4610]

Swentzell explains that the application of this ethic goes back to the tradition of "visiting" (see *Education* in Chapter 14). He shares that among the Pueblos, the traditional practice of "visiting" is not limited to people. When out in the mountains, people would "talk to the plants, talk to the rocks...You're visiting the landscape" (4616). He maintains that although the dominant society might scoff at this practice,

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[142] The interested reader should refer to Mollison (1985) for a comprehensive treatment of permacultural ethics and practices.

> [W]hen you do it in a very deliberate kind of way, it starts to change the way that you think of the landscape as a commodity. How can you even think of the landscape as a commodity if those [resources] are your family? [4616]

Resources, according to Swentzell, are not an abstract idea, they are community. People ask for what they need. People take gifts to the rocks that they intend to gather.

> The point, really, is... [w]e really are not the only ones. We're not allowed to modify these things... We need to be respectful when we go among them [and] go visiting. [4617]

Swentzell observes that this traditional worldview relies on two essential beliefs. The first is that everything, which ever existed before is still with us and is watching over us now. People need to consider what they want us to do now. "You have the mindset, 'I'm not just here on my own'" (4620). The second belief is, "What we do comes back... What you do now lays a path for everything else that will ever exist [from now on]" (4620). A person, therefore, carries the responsibility for the future.

Swentzell finds that consideration of these ethical responsibilities alters how people behave. A person does not act brashly. A person can begin to comprehend that what an individual does, on their own, "has the power to change the world in ways that you never thought were possible... Even in the little actions you do, [you] may change the world" (4621, also 4619).

Peter Pino (4488) shares his personal philosophy, which informs his attitudes toward the management of the Jemez Mountains, in terms of his experience as a farmer. He says that people take a whole lifetime to learn about life, whereas a farmer can learn about a lifetime of experiences in a single growing season. Just as a farmer must nurture his crops, so a family must nurture its child. If a child receives nurturing, he or she can be an asset—not a liability—to their community. He concludes, "Just accept Nature for what it provides, and all the different cycles, and live within those cycles, and not try to modify and change everything" (4489).

Tito Naranjo offers the observation that traditional worldviews are best expressed within the languages of the communities in which the views, attitudes, and perceptions are held. To provide an example, he observes that the Tewa language, which is spoken at Santa Clara Pueblo

and the other five present-day Tewa Pueblos, is "a very high context language" (4411).[143] He agrees with the statement that one of the most beautiful things about language is the power of the metaphor. Naranjo adds that because the meaning of metaphor is highly contextually dependent, "language flowers" (4410).

In his own use of metaphor, Naranjo conveys his understanding that language represents a living cultural tradition that spans the passage of time. Naranjo then makes the link between language and culture clear when he notes that language allows the people of a traditional community to be themselves within the landscapes that they have constructed through their creative use of place names (4416). As such, the places where people live are also timeless.

Naranjo decries the near universal embrace of *functional orality*, which accompanies literacy, at the expense of *primary orality*. He explains that literacy kills the power of the word by preserving it (4409).

Roberto Valdez also talks about the importance of language and its role in conveying traditional perspectives, values, and attitudes about the Jemez Mountain's rural Hispanic residents. He notes that northern New Mexico Spanish "tells a migration story" (5500) and that the record of the region's place names represent a melding of several languages—Spanish Iberian, Nahuatl, and Tewa. (5503).

Valdez (5504) provides that there was significant cultural exchange between the Spanish settlers and the Pueblo communities, which included information about native flora, fauna, and geographic knowledge. Valdez contends further that this kind of cultural transmission was more important than intermarriage, as least in his paternal (Valdez) and maternal (Herrera) lineages, as shown by recent DNA research, in which he participated (5506). Valdez characterizes the Spanish settlers' early incorporation of Tewa place names into their cultural geography was essential to his forebears becoming part of the land (5511). Additionally, perspectives, values, and attitudes peculiar to the Tewa and the Spanish developed in the region among both cultures,

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[143] Tewa language relies on words and phrases, either before or after a particular word or passage, to make the meaning of the idea being communicated clearer and more powerful.

because of common experience with the geography and climate. Their landscape vocabulary reflects an identity as communities of people in relation to the land that they had come to share.

Valdez also shows through his comments that there persists a holistic environmental ethic among northern New Mexico's traditional land-based Hispanic communities. He describes the traditional view of land as "open" (after 5623) and "flexible" (after 5644). Valdez contends further that the present-day division of the land into discrete tracts, which are managed rigidly by contrasting land management agencies, is problematical because it is a form of rigid commodification. In comparison, traditional community approaches, which view the environment as a dynamic process defined their landscape relationships within a system of ongoing social negotiation responsive to the dimensions of flux and flexibility that the people perceived in their landscape. He characterizes this strategy is akin to "managing a fluid" (Valdez 5645).

Valdez describes some proponents of radical environmentalism as characterizing the relationship between human beings and the natural environment as a kind of "religious war" (5624). In this worldview, "Man" is cast as an "enemy" who "needs to be removed from the landscape... [for] ... [o]nly then will Nature achieve its full fruition" (5623).

In comparison, Valdez holds the view of his forebears that people are inseparable from their environment. People not only depend on the land, they are its stewards. He shares a memory of an uncle, who decried the increasing restrictions place upon forest use by the residents of the area's traditional and historic communities back in the 1980s. This uncle was not only critical of the implementation of policies and guidelines by land managers that he felt were increasingly impeding his ability to pursue the customs of his family and community. He was also concerned by effects that these restrictions were having on the environment itself because area residents were no longer able to fulfill their stewardship obligations. Valdez recalls that an uncle once said, "God is angry because we are not using the land. This is why we have these big forest fires" (5642).

Gregory Cajete (3960) contributes valuable perspective to the discussion of worldview when he observes that the perspective of native communities, the perspective of Hispanic farmers and ranchers, the perspective of miners and industrial timber men all are different. The

establishment of the NPS, the USFS, the LANL and the VCNP adds further complexity to the Jemez Mountains landscape because each of these institutions also brings its viewpoint and history.

He observes that the scope and content of how things have changed is "a matter of historical record" (3959) and feels that there is much to be gained through a program of research about how people's views have changed. Cajete notes that transformations in views about how land was used and owned characterize the transitions from "aboriginal use" to "Spanish Colonial authority" to "Mexican Colonial authority" to "U.S. authority." Before the U.S., however,

> there was not such a coded kind of legalistic effort to say, 'You can use this land for this purpose. You can use this land for that purpose, but not for these other purposes.' [3955]

Cajete attributes this change to the imposition of a Western worldview that treats land and its resources as economic commodities. Minerals, lands, and forest products are imbued with particular economic values, which condition the formula for how the land is managed. "Whereas before, it was this cultural use. It was this use for sustenance and sustaining groups and communities" (3955).

In the Jemez Mountains' contemporary multicultural landscape,

> Everyone has their differing stories. The story is going to be different based on where their little strip of experience... But it is also going to revolve around how the land was used economically because it was first used for subsistence. [Cajete 3959, also 3947, 3956]

Cajete agrees with the proposition that each community has its own expectations about what the Jemez Mountains in general, and the VCNP in particular, are and what they should become. He asks and answers a rhetorical question to establish the foundations of his opinion,

> What does management mean?...Management is based very much on a worldview... Of how things can be commodified, which value or use they have was in an economic thought system. [3961]

Citing the aftermath of the Las Conchas Fire as an example within a broad management phenomenon, Cajete acknowledges that each stakeholder community is now going through "similar kinds of discussions and reflections about how to begin to restore their strip" (3968) of the Jemez Mountains. The underlying concern is whether the worldview of one group will prevail with the effective exclusion of the others.

Community-Based Management

> *Our people had a 5000-year-plan.* Louie Hena, recalling a statement made by Gerald Naylor, a former Governor of Picuris Pueblo (4151)
>
> *It's a certain respect, caring.* Debbie Carrillo (4842)

Debbie and Charlie Carrillo (4844) note that local communities acted traditionally to sustain their *querencia*. Resource management is all inclusive, not exclusive. Porter Swentzell (4485) and Roberto Valdez (5625) agree, adding that traditional cultural knowledge informs their activities, such as the removal of deadwood for fuel and pruning piñon trees while nut harvesting, to enhance the health of forests so they can produce resources most useful and helpful to the people over the long term.

Louie Hena (4094) adds that residents of the area's traditional communities know what needs to be done to manage their landscapes sustainably by virtue of the intimacy of their traditional relationships with the forests. Hena (4152) describes the challenge to reconnect people with this plan in society's present-day land management policies and activities.

Roberto Valdez (5587, 5599) suggests that some people of the region's rural Hispanic residents, just as some Pueblo members, maintain the knowledge of their traditional community-based management frameworks in their interactions with their landscapes. He observes that they

> are still holding onto fragments of their lifestyle. They do it first of all because it is a way of life that they value and treasure. It is also a way of life that they know very well. [5587]

Valdez feels that people increasingly find themselves under siege with the adoption of new policies that restrict their access and activities in the forests (5588; see also Chapter 17). Just as Louie Hena, Valdez believes that this body of community-based management knowledge is a resource that should be integrated into—not replaced by—current land management approaches.

Hilario Romero describes the traditional Hispanic approach to the management of land grants as "almost inseparable" of that of the neighboring Pueblos: "Everything is stewardship on a land grant, for the next generation" (5275). He reports that the *ejido* (a Hispanic land grant community's commons) traditionally was unfenced, but the commons now are subdivided and fenced. The fences have created problems and contributed to the breakdowns in the society of the land grant communities.

> This whole concept of the barbed wire fence really ruined everything...Fencing undermines the traditional concepts of sustenance and sustainability. [5281]

Not only were the *ejidos* subdivided, much acreage was lost to outside interests (see Romero 5284-5286 for discussion). Traditional land management practices similarly waned. Romero feels, "The thing that is so sad about that is people lost their survivability; they lost their ability to sustain themselves" (5282).

Romero (5293) later shares a recollection of a great, great-uncle, Eugenio Romero, who supplied "all" of the railroad ties needed for the railway between Raton and Albuquerque in the late nineteenth century. Romero states that his uncle harvested trees from El Porvenir, which is west of Las Vegas at the base of Hermits Peak in Gallinas Canyon. According to Romero, the forests there today look just like an old growth forest despite the fact that his uncle harvested huge numbers of trees. He maintains that his uncle knew how to thin the forest to sustain the forest by following traditional lumbering practices (5293).

Watersheds as the Basis of Land Management

> *You want to make sure that these watersheds are cared for because they care for us.* Porter Swentzell (4675)

Gregory Cajete (3923), Louie Hena (4193), Peter Pino (4517), Hilario Romero (5279), and Porter Swentzell (4673) are in agreement that the watershed is an essential land management unit among the region's traditional and historic communities. For example, Gregory Cajete (3923, also 3959, 3968) characterizes watersheds as the basis through which the Jemez Mountains' traditional east-side Pueblo and Hispanic communities defined their respective interactions with the neighboring mountains. Each community defined its preferential use area in terms of its own unique watersheds, thereby protecting the environment by spreading disturbances associated with their respective activities widely across the Jemez Mountains' landscape. The drainages demarcated the particular pathways by which the residents of the different communities entered and left the mountains to reduce the potential for rivalries by minimizing chance encounters in the forests.

Peter Pino (4517), in comparison, maintains that the people of the different Pueblo and Hispanic communities of the Rio Jemez Valley, which drains the center of the Jemez Mountains and borders it south flanks, form the greater Rio Jemez watershed community. When area residents focus on what they hold in common—namely, the watershed—the culturally and historically diverse peoples of the valley are able to cut through their differences to focus on land management issues for their mutual benefit (4516, 4517).

Louie Hena (4193) considers the management of watersheds as a whole, literally from the top down. That is, to help manage sustainable surface water flows from the higher elevations to bottomland settings, Hena advocates approaches that interact with precipitation over the span of the annual cycle to manage permanent and seasonal runoff. These approaches include efforts to enhance the absorption of rainfall and snowmelt into the ground, which, in turn, lengthen the span over which the water moves through a watershed. He also talks about mechanisms, such as checkdams, to regulate the velocity of surface flow events to reduce the likelihoods of flooding and erosion (after 4194).

Porter Swentzell (4674) observes that contemporary political and management boundaries do not necessarily mesh with hydrological or cultural realities. He states instead that water is an essential cultural resource and the Pueblo communities have "an incredible focus on water... It is just the center of who we are" (4674). He concludes, "Watersheds are much more understandable as boundaries... than these political lines" (4674).

Swentzell (4673) expands upon the importance of the watershed in terms of his Pueblo's relationship with the Santa Clara Canyon. For his community, the compromise of the watershed is more than either an economic or even ecological concern: "[I]t's a concern on the spiritual level as well. You're seriously compromising the way things work" (4675). Mismanagement of the watershed threatens existence itself.

Hilario Romero observes neatly that among the region's historic communities, "Everything focuses on [the watershed]—daily life" (5279). He recalls a traditional saying, "*Si no hay agua, no hay vida* [If there is not water, there is no life]" (5280) and then talks about traditional Hispano practices of land and water use.

Romero describes the patterns of inheritance that underlie the narrow strips of land ownership commonly seen today. Long, wide strips were repeatedly subdivided over the generations. People were not to sell or give land and water away, least they "destroy the equilibrium of the village" (5280). The strips are long to ensure people share in the land and its waters equally. Above the designated strips of land is the *ejido*, which all members of the land grant community share. *Ejido* tracts characteristically extend into the surrounding uplands and their forests.

Permaculture as a Foundation for Land Management in the Twenty-First Century

Everything old is new again. Louie Hena (4066)

Louie Hena talks extensively about his interest in permaculture, which grows out of his interest in biology. He became interested in permaculture after reading Bill Mollison's (1985) book, *Permaculture: A Designer's Manual.* Hena considers this volume as "a tool book," which he uses in his own work "to revitalize a lot of activities that we forgot about as a sustainable community" (4062).

Whereas Mollison (1985) defines the term *permaculture* as *permanent agriculture*, Hena says that he came to realize that permaculture is "our way of life" (4064). He reports that in talking to his community's elders, including his parents, about what he had learned in permaculture, they confirmed the principles that Mollison espouses are the same as those that the people of Tesuque practiced traditionally in their everyday lives (4063). Hena explains that permaculture is not "permanent agriculture," it's "permanent culture," and agriculture "is just part of our culture (4064; see also Porter Swentzell 4566)).

Hena explains that permaculture is "about working with, rather than against" (4157) Nature. "The idea is just to speed up the process of helping Mother Nature recover" (4126). He shares that in his experience, permaculture helps people understand "the indigenous principles of caring, sharing, respect" (4077), which represent the tenets of sustainable management (4158).

Speaking of his own experience in permaculture, Porter Swentzell (4566) says that he has learned that the Pueblos have been practicing permaculture forever and have adapted their practices of sustainable farming to this environment. Hena emphasizes, "We've just forgotten about that portion of our culture" (4153). Swentzell and Hena agree that their work in permaculture is to reconnect their communities with these age-old principles and traditions of land management.

Hena not only believes that a permacultural ethic is beneficial to the natural environment, as a land management approach, it is also good for people. He says,

> I equate the health of my landscape to the health of my community... If we got the people out there to heal the landscape, they will heal themselves. [4107]
>
> That's why I say that people need to get out to work the landscape, to heal ourselves and to heal the landscape. [4149][144]

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[144] It is worth mentioning in passing that Gregory Cajete (4032) agrees with Hena's observation that the health of our landscapes is a reflection of the health of our communities. In a similar vein, Tito Naranjo attributes the trash that people leave behind in wilderness areas increasingly as a product of a breakdown of the community, as well as the weakening of the relationship that people have with their landscape (4431).

CHAPTER 16
FIRE ON THE MOUNTAIN
(AS SEEN FROM TRADITIONAL AND HISTORIC COMMUNITIES)

> *Fire has an important aspect for cleaning, for curing, and also, in a hidden sense, for life as well: The cycle of life.* Porter Swentzell (4626)

Tito Naranjo says that he was fully aware of forest fires in the Jemez Mountains (and elsewhere) when he was growing up (4400). These burns were not of the same, large-scale as he has experienced in recent decades.

He tells of a place that had burned earlier and became a favorite hunting area between the 1930s and the 1950s to 1960s. "When there's a fire, there's secondary growth that comes in. Along with secondary growth, come all the animals into that area" (Naranjo 4440). He relates further that these animals are the same ones that accompanied the Tewa's emergence onto this Earth, including buffalo, bighorn sheep, deer, and elk. He notes, "All are water filled beings" (4406). The Tewa know that the vegetation changes, including the return to aspen trees in areas that had been dominated by climax forest, following wildfires.

He recites a Tewa phrase meaning, "The mountains are always burning" (4399). He notes further that a favorite song of the Tewa includes the stanza, "Lightning, thunder, and rainwater come, and they all come together" (4399).

Naranjo shares that the people of his community pray for water along with lightning. Because fire, lightning, and thunder are all intertwined (4404), "As you accept the rose, you accept the thorn... Lightning sets forests on fire" (4399). That is, the Tewa realize that they must accept that lightning comes with fire. "And mountains will burn, which is a good thing. We are being blessed!" (4399).

In responding to a question about whether he knows of traditional community stories about forest fires, Naranjo answers, "We know that there is a renewal, just as adobe walls fall, and we move on from one place to another. Fires were of that nature, too" (4403). He continues by noting that his community's history includes remembrances of the people moving to places that were rich with new growth.

The acknowledgement of fire's power to renew is manifest among the members of Naranjo's Pueblo in revered customs and spiritual traditions. To help outsiders comprehend why his community views fire with reverence, he offers, "Tewa people have a philosophy of 'Seeking Life'... Fires are that renewal of life that we are seeking" (Naranjo 4405).

Naranjo (4412) adds that the Tewa know fire through song and ritual. They lived with fire all the time because fire "is interwoven into everything that is done" (4414). The people have prayed for, and have fed Old Lady Fire, a deity who lives all around, as well as on top of the mountains (4404), in prescribed ritual. For example, he shares that every time a person descended the ladder into a kiva, the cacique would ask who is going to create special thoughts for feeding Old Lady Fire (4404). Naranjo continues by describing a cloud-shaped reflector in front of the fire pit and how a person would "feed" Old Lady Fire by carefully adding kindling to a glowing coal and by breathing upon the ember to ignite a new flame. He concludes, "If we have a prayer for Old Lady Fire, then we have respected her for a very long time" (4412).

The people of his community view natural wildfire ignitions in the forests as tolerable because they are part of a living process that sustains life both in the mountains and in the people's communities. Ignitions caused by human actions, however, are unacceptable (4400).

Drawing from this perspective, Naranjo (4405) describes the tragedy of the Las Conchas Fire as being the consequence of two compounding human errors. First, the fire's ignition was caused by neglect of people—notably, a lack of maintenance that enabled a tree branch to fall on a power line. Second, the devastating burn in the Santa Clara Canyon was the result of an intentional back burn designed to prevent the conflagration from burning onto sensitive areas of the LANL reservation where nuclear materials and wastes are kept.

Naranjo offers how people likely would have viewed the aftermath of the Las Conchas Fire had it been the product of a natural ignition:

> If it just happened, one would have said, 'Yeah, this is supposed to happen.' Now, life has been re-created. Now, we have been restored. Just as water, just as rain and lightning and thunder and clouds bring us life... [4405]

Naranjo (4402) recalls his first visit to the Las Conchas burn area. The sight of the charred "moonscape" at first filled him with grief for all that had burned. He then found hope through Tewa philosophy of Water—Wind—Breath regarding the physical world from which people come and into which they will return.

> Even if the mountain has burned, it has [Water—When—Breath]. Why make a big deal out of the Las Conchas Fire when we know that the Earth heals itself? [4414]

Naranjo (4402) knows that there will be a profusion of new life in the burn scar over the next few years.

Porter Swentzell recalls the recent Las Conchas Fire vividly, including the image of ponderosa pine trees exploding on the Pajarito Plateau at a distance of 12 to 15 miles from his home in Santa Clara Pueblo.

> You think of fire as an incredible power... It felt like fire was going to come right down into here [Santa Clara Pueblo]. Some of the people were watering down their yards. [4627]

Yet, in the not-so-distant memories of the region's Pueblo communities, fires in the mountains' forests were not viewed with fear. Wildfires were even encouraged. Swentzell (4625) states that Pueblo people not only have always built fires in the forest, they often left large fires unattended. Notably, many of these fires would be at the same time of year that prescribed burns are now implemented. For example, bonfires would be set in the fall for traditional activities, while other fall fires are set at hunting camps.

The people traditionally allowed fires to act as fires are prone to act, regardless of their ignition source. If any of these fires escaped, they largely burned dead grass. These fires were not devastating given the characteristics of today's woodland habitat that has been subject to

more than a century of wildfire suppression, intensive livestock grazing, and commercial timbering.

Swentzell considers that a large number of errors in forestry management, often made with the best of intentions (4624), have contributed to the manifold challenges that wildfire managers face today when there is a catastrophic burn in the woodlands. While acknowledging the terrible scale of their damages to the forests, he views these conflagrations as Nature hitting a reset button to "resolve itself in a sense" (Swentzell 4629).

He is capable of forgiveness because this situation reminds him of his people's history (4631). Over time, his ancestors also have made mistakes. Swentzell feels that while mistakes can carry lasting harsh consequences, they also are opportunities for learning. He feels that people learning not to repeat the same mistakes is more important than the errors they have committed:

> We are learning to be human beings. We haven't [fully] learned to be human beings yet, but we are slowly becoming the human beings that we are intended to be. [4631]

The history of devastating mountain fires,

> Just like in the [Pueblo's] oral history, every time there was a reset... We got to try to become better human beings than we were before. Something like a big forest fire gives you the chance, in a sense, [for] a positive new start. [4633]

Swentzell (4633) finishes saying that the forests not only will regrow as they are going to grow and wildfires give people the opportunity to reevaluate their behaviors to create a more appropriate relationship with their natural communities. The challenges are great, however; Swentzell (4677) concedes that it is difficult to see opportunities when the water sources from which people drink and the mountains upon which they rely for their livelihood and/or recreation have been gravely damaged.

Gregory Cajete finds that valuable lessons from the past are already being forgotten amongst the people of Swentzell's and his community. He recalls what the people of his

grandmother's generation talked about. One topic of conversation was that Santa Clara Pueblo, located in the floodplain of the Santa Clara Canyon, has been prone to flooding in the aftermath of major woodland wildfires over the past three or four centuries (3976). He shares that the oldest parts of the Pueblo are on top of the mesa that overlooks the floodplain. Despite this historical memory, new housing is being placed in the floodplain.

Louie Hena (4083) remembers the Cerro Grande Fire in Bandelier in 2000, as well as the La Mesa Fire in 1977. He watched the fires from the top of a nearby hill on the Pueblo of Tesuque. He also recalls it was "raining ashes" at Picuris Pueblo (where he worked in the Environmental Department) during the time of the Cerro Grande Fire because the community lay within the path of the smoke plume (4084). Despite his awareness of the devastation that wildfires can inflict upon Jemez Mountains' forests, Hena remains a proponent for the reintroduction of wildfire into the woodlands. Stating that the forests no longer are being managed through harvesting of trees in the wake of broad fire suppression policies, there has been a buildup of fuels (4093). Fire, he maintains, is needed to correct this situation (after 4082).

Peter Pino calls for land management agencies to give greater attention to the replanting of trees in burned forests:

> After the fire, the first thing that comes back is oak, and oak is low and it is really thick. If it ever catches fire, it's going to go pretty quick because they touch [to form a continuous canopy] ...I don't see anybody...removing oak. As long as it's green, they think the Earth is recovering. You need to put some [tree] seedlings in some of those places... [4490]

As noted previously Anthony Moquino (4295; see also *Post-Fire Forest Stabilization and Restoration* in Chapter 6) has shared that his Pueblo is now learning how to interact with federal agencies to express their concerns following wildfires in their sacred Jemez Mountains. After the South Fork Fire in 2010, Ohkay Owingeh requested that the Forest Service fly several of its knowledgeable elders over the burned area to inspect the fire damage to shrines and other religious sites (4294).

Debbie Carrillo (4737) does not remember forest fires as a child. She also does not recall seeing burned areas in the aftermath of forest fires. She does not even remember talk of fires in

the canyons or the *vallecitos* (little valleys, such as those found on top of Lovato Mesa in the northern Jemez Mountains) among her family members (after 4798).[145] Instead, "I remember the guys going up, and they talked about the water" (D. Carrillo 4788). The first thing that the men would do when they went to the mountains was to check how much water was flowing in the creeks.

She wonders if the forests were less thick and people cleared dead wood for fuel, thereby reducing fuel loads in the forest (4798). She states,

> That could be one of the reasons that I never heard of fires when I was younger, because we used to go up and harvest [wood] ...We'd see other family members from Abiquiu... [4758]

The Las Conchas Fire burned north to Vallecitos near the south end of the Town of Abiquiu Land Grant (D. Carrillo 4795). This blaze, which threatened places in her beloved landscape transformed wildfire from abstract knowledge into experienced reality in D. Carrillo's view of the Jemez Mountains:

> When the Cerro Grande [Fire] happened...about 10 years ago...was the first time that I thought about fire...A lot of the guys, my brother included, would go up to Vallecitos and Los Rechuelos, and they would stand and watch to see where that fire was, because we were getting so much ash in Abiquiu. [4791, also 4794]

In the wake of the Las Conchas and subsequent South Fork Fires, which burned on top of Lovato Peak near Cerro Pedernal in even closer proximity of Abiquiu, D. Carrillo and her family have talked openly about the possibility of a fire crossing the Jemez Mountains and burning into Abiquiu (4790, 4792): "What would be the plan if fire came the way down to my mom's house? Because my mom's house would be one of the first to go" (4793).

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[145] Charlie Carrillo (4797) reports that although he has looked at "thousands" of historical documents, he has never come across mention of wildfire in the Jemez Mountains. He thinks there were fires, but they were neither large nor noteworthy among the area's rural residents.

Although she does not want to see further catastrophic wildfires in the Jemez Mountains, D. Carrillo still finds hope in the face of this risk. When asked about how she would feel if her ancestral home of Vallecitos burned, she responded solemnly, "If it were to burn, it would still be okay, because new life would happen" (4827).

Summarizing his knowledge of wildfire in the Jemez Mountains over his lifetime, Fred Lucero states,

> We are seeing a lot more fires for some reason now. It seems that fire is just part of life now. Before, I don't remember seeing that many fires. We had one once in a while—a big fire, or small fire here and there. But I don't remember the commotion that's taking place now. [4963]

F. Lucero shares his thoughts about the present condition of the Jemez Mountains' forests:

> As a cattleman, it limits the amount of grazing and it's potentially a fire hazard...Areas you can't even walk through...Sun doesn't shine on the ground, nothing comes up. [4904]

He adds that some woodland areas are now so thickly overgrown that he can no longer ride his horse among the trees (4904; see also O. Lucero 5128).

F. Lucero recognizes that there is vigorous grass growth following a prescribed burn. This new growth can sustain grazing, especially if there are rains. Nevertheless, he finds some of the old burned scars are being taken over by scrub and dog–hair pine (4905, 4906). Unless they are periodically thinned by wildfires, prescribed fires, or mechanical treatment, very little grass will grow because of "all the shade" (4923).

F. Lucero adds, that in his experience, "A wildfire just cleans everything out, which is not good either if it rains, the flood" (4923). He has witnessed, for example, that Fenton Lake has been cut significantly in size because of silting following the recent fires (4924). He feels that the lake is in need of remediation because of the amount of silt that it has trapped.

Gilbert Sandoval recalls that his father used to say summer lightning strikes, which started small wildfires, were "the way God intended" (5464). With the region's long history of fire suppression, the Jemez Mountains' forest is

> growing, it's growing something. But is it good? If it's not good, it's useless. It's growing a stagnated stand of nothing. [5404]
>
> It's out of control. It is robbing us of the ability to go in there and burn it... [5405]

Further lamenting the consequences of fire suppression, Sandoval contends that animals cannot survive in dog-hair pine forests, which have a foot of duff for ground cover: "Nothing for them to eat there" (5402). Also, dog-hair forests hold the snow in their canopy; the quantity of moisture that reaches the ground is greatly reduced.

Sandoval tells that people once came to the Jemez area and "saw how beautiful it was" (5439). Now, many visitors say that the Jemez Mountains are in "horrible" condition because of the cessation of active management, including commercial lumbering, over the past 40 years. He concludes, "The very things that we're trying to protect, which is wildlife, in its various declining stages, are the ones that are losing out" (5403).

CHAPTER 17
TRADITIONAL AND HISTORIC COMMUNITY VIEWS OF REGIONAL MANAGEMENT PLANNING AND ADMINISTRATION

> *Why not a new approach? Let's make the Forest Service—and what belongs to the US government, which belongs to the US people anyway—...work for the local people!* Charlie Carrillo (4781)

Gregory Cajete states that the Americanization of New Mexico and the institutionalized ways in which land and resources were looked at as commodities introduced "the psychology of 'preserve' Private ownership on the one hand,...and then the national preserves" (3999), including the national forests, the national monuments and the LANL reservation. He adds that the establishment of Tribal reservations is also a product of this kind of thinking. The result has been that people of the traditional and historic communities that preceded the U.S. have had less and less access to the land upon which they have depended for generations (4000).

Issues of respect, acceptance, and trust lie at the core of communities' disapproval, even fear (see below), of federal and state land management agencies. Cajete contends that where there are management preserves, "there is limited engagement of the outside world" (3998). Furthermore, the preserves tend to be highly regulated.

Cajete takes issue with the land management agencies in their strategic planning for their purposeful exclusion of communities:

> They don't necessarily want the community involved except for a certain kind of way. They feel that the community gets in the way and makes things much more difficult for them to do their work. [3995]

Cajete contends that responsible management requires agencies to engage with the people of neighboring communities in the process in meaningful ways, which respect their knowledge, as well as cultural and historical ties to the landscape. He specifically agrees with the suggestion that agencies need to adopt policies to encourage communities to become active participants in management initiatives (4037). He observes, however, that "the deep sociology of bureaucracy" (4039) is not predisposed to think in terms of bottom-up approaches, such as those that promote community collaboration. Moreover, institutionalized thinking "creates its own island" (3997).

He speaks of his experience working with his Pueblo in developing community-based initiatives for the regeneration of the Santa Clara Canyon after the Las Conchas Fire. Cajete (4009) realizes that it is incumbent on the institution to reach out to community members for assistance in developing groundwork from the beginning to realize something that will truly be a community-based initiative. He allows that local communities, in turn, have responsibilities of their own in requesting and accepting participation in the management process. He states,

> Individuals can do a certain amount of things here and there, but it's really communities working together on issues that have meaning and relevance for them that make a difference. So, it's getting communities to be functional again and to take ownership and responsibility for their own processes of education, and then to take ownership and responsibility for the nourishment of their places, of their lands...Knowing and understanding that that nourishment [of their places] is also nourishment of themselves. [Cajete 4036]

Louie Hena feels that

> People should continue going in there [into the mountain]. Just like my community... we've always been part of the landscape. [4089]

He is critical of federal and state land management agencies for usually excluding indigenous and traditional communities from respectful and meaningful participation in the process. In his experience working as an employee of various Pueblo environmental departments, Hena feels as though federal and state managers all too often convey the attitude, "You guys don't know nothing" (4160) in their interactions with Pueblo community members.

Regardless if USFS engagement is either through government-to-government channels or through more general public forums, Hena feels as though government agencies often enter into their consultations with a "ready-made" decisions in hand (4101).

Hena feels further that recommendations based on staff members' "Western education" are privileged over those that are based on careful observations made by community members in a landscape with which they are intimately familiar. He points out that Western science is now demonstrating the veracity of indigenous knowledge. "In our communities we've been told to believe... Now our belief is proven fact" (4069). He adds that there is tremendous knowledge among the members of the area's traditional and historic communities about what people can do to live without destroying the land upon which they depend (4164, also 4207).

Hena recommends,

> The Forest Service should look at the community-based land management, because we have plenty of people within our communities that are capable of doing that type of work. That forest product would go to our local communities versus going out of state or out of the country. [4091]

In Hena's (4092) view, community-based programs in the SFNF would resemble what is done now, but it would be structured for the communities to come in and harvest forest products for their use. One of the benefits that the USFS and other land management agencies would realize through its participation in community-based initiatives, would be community members offering regular oversight of land use activities and an active monitoring of the forest's condition (4102).

Anthony Moquino (4303) recognizes the need for regional management given the large number of people who rely on public lands for various purposes. He adds that forest thinning programs and road closure discussions require broad oversight.

Moquino (4288) notes that Ohkay Owingeh harvests only small quantities of forest products for its traditional cultural needs from federal lands, maintaining further that his Pueblo has no interest in commercialized extractions. Access to certain places within the Pueblo's

landscape and authorization that the community's members can harvest the resources that they need for their traditional cultural practices are necessities.

He talks about his participation in about 25 pilgrimage expeditions into the Jemez Mountains over the years. Each of these excursions has covered between 60 and 70 miles, and Pueblo members have had to pass through four "Spanish" communities on their way to SFNF lands. Moquino (4248) reports that members of the contingent must follow very specific restrictions while crossing private land. They also need to carry "passports" (i.e., permits) once they are on SFNF lands to gather pine boughs and offer prayers (4277).

Moquino (4289) states that his Pueblo wants to exercise its right to visit the places that it needs to visit in its landscape so it can continue its traditional cultural practices into the future. He reports that his community is now developing a Memorandum of Agreement (MOA) with the Carson National Forest, and it is developing Site Watch and various land-use programs with the BLM for lands on the east side of the Rio Grande Valley (4278). Because the USFS is moving away from issuing activity specific permits, Ohkay Owingeh has worked to develop Memorandums of Understanding (MOU) with the Santa Fe and Carson National Forests (4277). This way, the Pueblo hopes to continue to obtain the forest products that it needs from the Jemez and Sangre de Cristo mountains, respectively. He indicates that the Pueblo would like to develop a cooperative agreement with the SFNF in the future given the prominence of portions of the Jemez Mountains currently under the USFS's administration (4289). Moquino emphasizes that the development of MOAs, MOUs and cooperative agreements are possible only through communication based on cultural respect (4305).

Moquino states that his community needs to be organized and proactive in pursuing cooperative management agreements (4291). "When you know the policy, you can make your own statements... more authoritative" (4293).

Tito Naranjo states,

> We've always detested the Park Service and the Forest Service... Those bureaucratic officials need to put aside their own belief systems, their own viewpoints, and their own cultural perspectives and let... the Pueblo people [who have been here a long time] continue to live. [4398]

He contends that land managers' decisions directly affect the region's traditional and historic communities, especially those with pastoral economies (4119). Naranjo echoes the sentiments of his Pueblo counterparts and calls for meaningful engagement. He asks that government personnel, in their discussions with Native American communities, show respect and simply say, "I can accept," "I don't have to know," and "I can't understand, and don't need to understand, what you do" (4389) rather than press for culturally sensitive information (also 4379). He explains, "Government-to-government [consultation] doesn't work because they're talking to a secular part of the [Pueblo's] government" (4384). Citing Santa Clara as an example, he explains that the foundation of the community's government is the "Native Government," which cannot share its privileged cultural knowledge.

Not only is it inappropriate to discuss details, Naranjo notes that simply by talking about privileged cultural knowledge in secular discourse, "You make it profane" (4385). Written documentation of these traditions is even more problematical "because the written word kills the power of our ways and the magical powers that [a society] has" (4379). For these reasons, he would like to see government agencies respect age-old community traditions and not ask questions. He feels that government-to-government engagement should exist only to say, "We won't ask questions, and we are going to extend this invitation" (4385), leaving traditional communities to handle the matter internally so people can go into areas when they need to without having to register their activities with land management agencies (4379). Naranjo agrees with the statement that land managers need to trust that the traditional and historic communities will do what is right when it comes to regulating their traditional knowledge and practices (4394).

Naranjo maintains that agencies do not comprehend, "Just one place doesn't do it" (4390). Landscape features are given meaning by their relationships with one another, as well as the people of his Pueblo. Naranjo (4389) cites Blue Lake up at Taos Pueblo as an example. Significant cultural practices are not constrained to the banks of Blue Lake. Traditional cultural practices linked to Blue Lake occur throughout the lake's watershed. He also mentions Bandelier. He says that while the renowned Stone Lions Shrine is an important cultural site, so are the Monument's Red, Yellow, and White Canyons, which offer essential minerals, such as red ocher, yellow ochre, and a white clay, respectively (Naranjo 4390).

He also addresses the issues of political boundaries and regulatory policies and procedures that effectively limit access to the complex of resources needed by his fellow community members for traditional cultural practices: "When there's boundaries and where somebody tells you, 'No, you can't go there anymore,' (Naranjo 4395) that's what threatens cultural survival." Boundaries put people in the position of having to trespass to do the things they need to do—and when they need to do them—to maintain traditional cultural knowledge important to their identity.

He finishes his commentary on the subject,

> Maybe it's symbolic in the twenty-first century, but we're still alive and we're not dead... And I would guess that the U.S. Government will want the Pueblo Indians to go away, too, by the way they act and by the way they put lines around Bandelier, and by the way that they put lines around the Valles Preserve. [Naranjo 4397]

Peter Pino agrees with Naranjo that land management agencies need to trust the people of local communities. Speaking of Native American community consultations, he asks, "Why can't we just say that's sacred and leave it at that?" (4504). "Why can't they accept just who we are and respect that?" (4506).

He recognizes that trust, or the lack of trust, "goes both ways. You don't trust us, and we don't trust you" (4504). Pino maintains further that dialogue must be honest and respectful, noting that only from such foundations can trust be developed. It takes time and effort among all the participants. He asks for agency personnel to consider Native etiquette, which affords people the opportunity to express what they have to say fully and without interruption and not appropriate ideas that they find useful as their own (4515).

Pino believes that the U.S. government has a mandate to protect the welfare of all, but he states that Zia Pueblo sometimes has experienced difficulties. As an underlying concern, Pino states that the federal government has "cut the land. They exercised different laws that slowly ate away at our freedom... to use the resources" (4475) of the Jemez Mountains. Pino then recounts several instances where he feels that the federal agencies have not engaged with Zia Pueblo in sincere and respectful manners.

He cites the USFS's handling of the Buchanan Prescribed Burn near Pajarito Peak on the Zia Pueblo Reservation in 1993 as an example where the agency failed to act upon requirements made by the Pueblo in consultation (Pino 4494-4496). When asked if the Pueblo would permit the prescribed burn to enter its Reservation, Zia Pueblo's authorities consented, with the requests that the fire (1) be set in the forest's higher elevations and only be allowed to burn downslope toward Zia's lands, and (2) allowed to die where it wanted as it approached the Pueblo. Rather than complying with the Pueblo's requests, fire managers dropped "fire balls" (lit ping-pong balls filled with fuel) from the air onto lower elevation piñon-juniper woodlands on Zia Pueblo's land. Because they initially had difficulty starting the prescribed burn in this area, the fire managers increased the intensity of their ignition efforts, with the consequence that the blaze became too hot. The burn subsequently escaped as a crown fire, which raced upslope toward Pajarito Peak, killing one fire fighter and injuring five others in the process (4495). Zia Pueblo sought an apology, but the USFS would not apologize. Pino states that communication between Zia Pueblo and the Forest Service deteriorated subsequently (4496).

During a 2011 consultation meeting with the USFS, Pino suggested that the agency could improve communications and relationships with Tribes by hiring more Native American personnel in Public Relations positions to assist as mediators. He recalls being told that the agency would consider doing so "if funds were available" (4502). Pino considers the "if funds" statement to be a "copout." "Don't just give us the talk" (4502).

Zia Pueblo formerly co-managed 29,000 acres of BLM property. Under this arrangement, the BLM did not charge the Pueblo permit fees for the co-managed lands in return for the community's contributions in the management of the range (Pino 4533). Pino felt that this arrangement was satisfactory, as well as beneficial to both parties. From the Pueblo's perspective, the Tribe received recognition for its contributions in caring for the land. Simultaneously, the number of violations on the BLM land decreased under the Pueblo's closer monitoring of the tract.[146] Pino (4534) reports that the agency terminated the co-management

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[146] According to Pino (4534), the number of violations has again increased since the BLM terminated its co-management agreement with Zia Pueblo.

agreement after the Pueblo began exploring the possibility of purchasing 11,000 acres of this land and placing it in Trust.

Pino is critical of the USFS's "position on saving every tree, every bush, and not allowing any of it to be harvested. It's really been devastating to the health of the Jemez Mountains" (4477). He explains,

> When you look at the piñon-juniper forest in this area, we don't put a dent into it. It's still pretty thick. Then, when you stop cutting trees, like they've done in the forest, it just grows and grows and grows. [4482]

The canopy does not let the sunlight reach the ground surface, and there is very little plant growth on the ground.

Pino (4499) recommends that USFS managers not waste fuel and other precious resources with prescribed burns. Instead, he advocates providing access to people so they can harvest what they need. He also endorses proposals not to charge permit fees to people who only cut dead wood. "Why can't they just allow people to harvest some of it?" (4499), thereby helping to reduce fire fuel loads in the forest.

Pino maintains further that this work will help connect the people with the land and help them again to become stewards, and "give them a sense of ownership" (4499). He again refers to the benefits of "the lifetime of experience in one growing season" (see Pino 4488; see also *Worldview* in Chapter 15), noting, people will see "what they've been able to do" (4499) to help the forest.

He views the amount of paperwork required by the federal government for an individual to submit a bid, such as is needed for contractors to bid on a proposed tree thinning project, as an impediment to developing productive relationships and implementing needed management activities (Pino 4503). He holds that some of the best workers in the area do not have the "paper education" to successfully navigate the federal requirements. He suggests the adoption of a flexible system involving specified contracts for thinning particular areas and for allowing contractors to learn from the experience (4503). At present, only the larger businesses knowledgeable of the Forest Service's requirements get the projects, but the funds are inefficient

in the sense that the overhead charged by these operators is costly. That is, a large proportion of the funding goes to overhead instead of thinning activity (Pino 4503).

Pino suggests that land management agencies might also benefit by adopting a Pueblo tradition for use in some of their forestry management endeavors:

> No compensation, just a large lunch. That's the way we've always done it... I think that if they [the Forest Service] did these things, the forest would be healthier. And it would be less expensive. [4501]

Not only would the activity benefit the woodland habitat, it would contribute to developing better relationships between agencies and communities, it would also promote a stewardship ethic (see also below).

Pino (4510) makes another notable observation. He states that in many of the agencies' management enterprises, scientists—most commonly anthropologists and archaeologists—gather information from Native peoples. The issue: "Nothing comes to the informant. The scientists collect information, publish a book or article, and then sign their names to it" (4510). Informants seldom are acknowledged, let alone paid, [147] for sharing valuable knowledge. He adds further that a lot of information that community members share is the knowledge and intellectual property of their Tribe. "That's worth something" (4510).

Porter Swentzell (4622) feels that public land policies are shortsighted. He views that this deficiency is evident throughout our society at large, with land managers, urban dwellers, and residents of rural areas alike largely have been "extracted out" of the ethic of viewing the environment as a supra-community in which they are members (4617). Moreover, the commodification of resources (as products) in an environment now prevails over approaches that view the environment as a holistic process. Swentzell feels that land managers' quantitatively-based decision making "loses value in this abstraction" (4619, also 4620). He notes, in comparison, that traditional qualitative Tewa decision-making, which pays attention to the

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[147] Pino, just as every other participant in this study, received an honorarium in acknowledgement of the expertise and time that they contributed to this undertaking (see Chapter 3).

relationships among entities in the environment, sets benchmarks about how people are to behave responsibly now and in the future.

Swentzell (4638) maintains that we all need to understand that people are part of the ecological process. He calls for greater involvement of area residents in regional management proceedings.

For Swentzell, this is not just a bureaucratic matter. He feels that management needs to be both a personal and collective process. He cautions residents of traditional and historic communities who participate in such proceedings be mindful of the widespread culture of "victimhood," which has its roots in the disjunction between what homesteaders expected for a better life and what they actually experienced (Swentzell 4613). In this view, "Everyone is a 'victim' of something, not seeing their own selves and their own culpability" (4613). Swentzell specifically warns that area residents should not enter into these proceedings carrying the attitude that they "are the 'victims' of the federal government for not allowing them to go on federal lands and doing whatever they want" (4613). Rather than focusing on assigning blame, Swentzell endorses the approach of encouraging people to do whatever they can to promote community where they live (after 4612).

Debbie Carrillo (4764) does not recall her family members ever speaking of the Forest Service. In part, her family was careful to stay within the boundaries of the Town of Abiquiu Land Grant, of which her grandmother was a member:

> The one thing that I do remember is that they would always be very careful about not getting in the Forest. We had to stay on the land grant. [4765]

She adds subsequently that it is striking that she, even though she was just a child, would know the where the US Forest Service boundaries were and also know that she was not welcome there (4849).

Charlie Carrillo explains, based on his conversations with life-long Abiquiu residents,

> They were afraid of the legal implications of... using wood, hunting, doing all the kinds of things not on the land grant, because the government had

> rules... The Abiquiu Land Grant belongs to the people, and they could do with it what they wanted. [4766]

D. Carrillo, however, quickly interjected, that the land grant also had rules. "We had to be careful of that, too" (4767).

The Carrillos are in agreement in their critique of the USFS and other government agencies. The feel that government policies are not equitable (4850), even privileging animals over people (4948). They ask rhetorically, "Where are the people?" (4848).

Drawing on his academic training and professional experience as an anthropologist, C. Carrillo (4843) observes that policy and management are rooted in different cultures than that of the region's rural residents. In the view of the local traditional and historic communities, the land management agencies "don't get it" (4843). Most managers come from different parts of the country and hold different perceptions, attitudes, and values about how to use the land. To the local communities, these policies "lack heart" (C. Carrillo 4843).

C. Carrillo adds that governmental agencies can act in ways, intentionally or not, that are offensive to area residents, given the long history of antagonisms between the people and the government that has limited their access to the lands upon which they have depended on traditionally for their livelihoods. He notes that even little things, such as signage denoting the Forest's boundaries asking visitors to respect the forests, renew long-held resentments (4851). Conceding that the signs might be necessary for people from the cities, most residents of the rural communities understand what environmental respect is: "People who grew up with this landscape certainly understand it" (4852). C. Carrillo identifies another dimension of the perception issue. According to what he has learned, Abiquiu residents tend to view signs, which ask visitors to respect the forests, as also encoding the denigrating message that they do not sufficiently respect the land grant that they are leaving to enter the SFNF (4852).

The Carrillos lament the loss of the Jemez Mountains commercial lumber industry, which they view as a product of the USFS looking only at the economics of the industry from "a Washington point of view, or a regional point of view out of Colorado" (4781). D. Carrillo remembers that the commercial loggers from Duke City Lumber Company were working in the Jemez Mountains while she was still in high school. They drove their trucks through the village

of Abiquiu. "They built the road on the other side, on Carruco,[148] all the way up" (4754). Not only have there been considerable job losses and losses of revenues that would go into the forest districts for local employment and forest management programs, there has been a loss of local community forestry tradition (4776).

As a traditional New Mexican artist, C. Carrillo describes the difficulty and expense he faces in trying to obtain native wood for use in his work.

> The trouble with pine is that you can't get stuff out of the mountain anymore. You can't get that big stuff, those good trees... They're all gone, they've all been over-harvested. [4753]
>
> The people like me who... would love to have large pine panels... It's impossible to get New Mexican pine anymore. Most of the pine that I'm getting is coming from Oregon or Washington... It's not even local pine. [4756]
>
> Think of all the New Mexican furniture makers. All of their wood is almost exclusively from somewhere else. [4779]

Orlando Lucero states, "Sometimes [the federal agencies] have good ideas..." (5207), but he makes clear throughout his commentary that what really matters most is what managers do with these notions. Overall, he feels that he, his family, and the San Diego Cattlemen's Association get along with the SFNF in the Jemez Ranger District relatively well (5165, 5197). He notes that some neighboring ranchers experience much more difficulty than his family (5194) and understands further that ranchers "over on the east side" in the other SFNF districts face greater difficulties (5165).

O. Lucero (5075) talks about the mutual responsibility between government agencies and its lessees. He recognizes that lessee ranchers have responsibilities, too, and maintains steadfastly that the government cannot—and should not do—everything on its own. Within this

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[148] Carruco is opposite of Abiquiu on the north side of the creek.

framework of reciprocal obligations, he concedes that much of what an individual experiences in their interactions with the agency depends on their own actions (O. Lucero 5194).

Even though the Lucero Family's relationships with the SFNF are generally positive, the Lucero Brothers find that there is room for improvement. For example, in comparison with the BLM, upon whose land his family members also run cattle, Orlando finds his dealings with the USFS involves generally "more red tape" (O. Lucero 5194, also 5192, 5195, 5204). His brother, Fred, readily agrees that the USFS requires much more administratively than the BLM (F. Lucero 4969, 4971-4973). The two brothers independently cited the inordinate delays—even 25 to 30 years!—that they have experienced in trying to get the SFNF to fulfill their obligations to permittees to replace ranch fences and pipelines (F. Lucero 4971; O. Lucero 5193) damaged by earlier wildfires.

The men cite problems with how upper-level agency personnel interact with local stakeholders as persons. The Lucero Brothers (F. Lucero 4974; O. Lucero 5087) feel that that they work well with lower-level staff members, who characteristically are from the community, just fine. Supervisory personnel can be condescending and rigid in their approaches to particular issues, even while they frequently redefine the policies and guidelines that inform their managerial decisions.

O. Lucero notes that even though "the majority of the people have lived there forever... They [USFS managers] do things like... we're not in existence" (5139). He describes how he perceives managers' common attitudes further: "Yeah, we are listening to you, but you don't count. We're the ones that make the decisions" (5140). He adds that there is "[n]o common sense when they talk to the people, and they're educated... They're supposed be respectful' (5064).

O. Lucero maintains that local resident's intimate, long-term knowledge of—and experience in—the area's environment can contribute valuable information to the management process (5167). For this reason, he feels that community should be allowed a greater voice in the management process. He expresses frustration with—and skepticism toward—an administrative process in which public meetings are held at times inconvenient for working stakeholders (5073) and attendees are made to feel unwelcome, or even intimidated, by agency personnel (5071). He

dislikes the fact that when high-level managers invite members of the public to provide input on a topic, they only afford participants a few minutes to express their preferences and/or concerns regarding complicated issues (5136).

O. Lucero (5163) is critical of—and concerned by—management proceedings that lack transparency. His brother thinks that the USFS, in particular, should be more forthright about what they are up against (F. Lucero 5013). He believes also that managers should be open about the many different pressures they face from different stakeholders.

F. Lucero (5020) talks about management requiring a holistic view that recognizes the interconnectedness among variables and the need for resiliency. Rather than being steadfastly committed to particular details, O. Lucero (5088) would like to see upper-level managers consider the constantly changing environmental conditions in which they are acting. "You've got to improvise" (5088).

O. Lucero cites the range conditions at the time of his interview (April 2011) as an example (5093, 5094). Cattle were not being allowed onto the San Diego grazing lease area until May even though the range was ready by April 15 because there was not much snow the preceding winter. Although SFNF managers told him that the pastures are not ready for the cattle, they were actively being grazed by elk (5151, 5152).

He closes,

> The government personnel—I understand that they've got rules to follow—but they need to look at it were they're at: the area, communities—and get some vision of it. Not just do things and wonder why they're in trouble. [O. Lucero 5205]

O. Lucero (5209) emphasizes the need for land managers to consider local conditions. For example, different allotments are affected by droughts differently. He finds that rigidity can be a problem associated with the uncritical implementation of "across-the-board" decisions. He recommends that managers assess each allotment and not simply implement some broadly targeted percentage.

O. Lucero suggests that the lack of constancy in decision making is a product of personnel sometimes not being fully unaware of management issues ongoing within their own agencies and a lack of coordination among staff (after 5092). He illustrates his comment by recalling an occasion three decades earlier when he and his family asked for—and received—permission from the BLM to place a water storage tank near Mount Taylor only to learn subsequently that a wilderness boundary had recently been expanded (5080).

According to the Lucero Brothers, a more common source of inconsistencies in management decisions is the frequent turnover in upper-level managers with the district offices. F. Lucero describes the career path in the USFS:

> The more you move, the more money you make. There's no reason to stick around... That's how the Forest Service is set up. [4976][149]]

F. Lucero reports that because SFNF planning requires two or three years (4979), the consequence of this high rate of turnover among the senior land managers is that plans are disrupted and there is a lack of continuity. "They're changing [the ground rules] ... Every two or three years, they're changing" (4977, also 4975). A cattleman needs to present a project all over again.

O. Lucero agrees with his brother: "The biggest problem we've got now with the Forest Service—the BLM not as much—they change people too often" (5082; see also F. Lucero 4978). The "big boys" should stay in place longer (5196).

Another important consequence arises from the matter of USFS's frequent reassignment of its upper-tier staff. O. Lucero (5082) says that although these managers might be very good people, they are not necessarily well-prepared to serve New Mexico's rural local traditional and historic communities. "You've got to have the right personnel in the right places" (5132). He feels that outsiders do not have intimate knowledge of the locality's ecology, adding that the

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[149] F. Lucero later revisits this topic: "... I think [USFS] is just a machine to make a living. 'I'll stay here a certain amount of time, then I'll go'" (5010; see also O. Lucero 5166).

particulars of the area's environmental conditions and cycles are beyond their experience and training before they arrive (5082, 5084, 5132).

Compounding this problem is the fact that high-level managers do not live in, or are part of, the local community; they neither know the people, or how they work and live with the local environment (O. Lucero 5082, 5085). He thinks that the Forest Service District Rangers should be required to live in the communities where they work, just as other local high-level administrators, such as the Jemez Valley School Superintendent, are already obligated to do (5083).

F. Lucero not only thinks that high-level managers should stay in a district longer, but when they finally leave, the agency should dedicate itself to making seamless transitions to "get everybody to continue to get things done" (5014). At the present time, he feels as though the person who is leaving simply says, "Adios" on their way out, and leaves projects, which are still in the planning phases, to be restarted under the supervision of the new manager.

O. Lucero (5158) believes that sustainable management policies and guidelines can contribute to a healthier forest. His vision of sustainable management is predicated on the idea of multiple use: "[B]y taking care of it..., you've got to log some, you've got to mine some. And don't destroy it—plan it" (5161; see also F. Lucero 4910 for a similar opinion).

Managers, therefore, must permit a range of uses and permittees must fulfill their obligations (O. Lucero 5158). He recognizes that multiple use doctrine is subject to conflicting pushes and pulls, with managers and stakeholders often wanting many different things. O. Lucero feels that this situation leads to inaction on the part of policymakers as they evaluate competing options. In the meantime, "the good part is getting encroached. No wood cutting. No prescribed burns. No thinning" (5206). Time passes quickly, and the forests become increasingly prone to catastrophic wildfires.

The Lucero Brothers share the opinion that the USFS needs to reinvigorate its prescribed burning and thinning programs to reduce fire fuel densities and increase grass production in the Jemez Mountains' forests (F. Lucero 4912; O. Lucero 5159, 5168, 5169). O. Lucero (5131) says that prescribed burning needs to be consistent and tracts treated with prescribed burning need to be maintained. He notes that recent thinning operations in the La Cueva and Thompson Ridge

settlements have been inadequate because they have focused on thin strips surrounding infrastructure. "But what about the rest? They need to go out a little bit more than 100 yards" (5129). Should a fire start, he predicts that existing forest conditions, in combination with winds, likely would overwhelm these buffers.

F. Lucero is a proponent of the USFS allowing people to come in and take the slash for use as fuel wood whenever it conducts is a thinning operation. "Those guys clean everything out" (4912). "The places that are freshly cut from thinning is where they need to send them, 'cause it's clean wood" (4915).

O. Lucero asks for USFS personnel to use better judgement and exercise fairness in the relations with ranching permittees and the area's woodcutters. With regard to the former stakeholders, he notes that elk enthusiasts, ATV users, and other people who visit the SFNF as recreational day-users seldom are required by the agency to register and pay for their activities. Consequently, their names to not appear on any list. In comparison, because they are known permittees, ranchers invariably "are the first on the list" (5089) when cuts are proposed in services and infrastructure. Also, when recreational users leave cattle gates open, ranchers held responsible for fixing the problem. "There's other people involved here" (5090).

He has no problem with the USFS requirement that woodcutters first need to obtain a permit. What O. Lucero takes issue with is a tendency by some SFNF staff members to give citations to local residents for not displaying their permit tag properly, while leaving ATV riders, who do not wear required helmets or run their vehicles off existing roads, alone (5099). SFNF enforcement, he feels, typically focuses on what is easiest. Wood cutters move much more slowly than recreational ATV riders.

He also derides the Forest Service for not formally addressing the Treaty of Guadalupe Hidalgo[150] with the area's Hispanic land grant communities (O. Lucero 5198). Speaking of

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[150] The Treaty of Guadalupe Hidalgo, which ended the Mexican War between the U.S. and Mexico, was signed on February 2, 1848. The Treaty's terms included, among other things, the U.S.' recognition of prior land grants made by the Spanish and Mexican governments in the Southwest (The Center for Land Grant Studies n.d., http://www.southwestbooks.org/treaty.htm, accessed on-line: 07/19/2013).

Northern New Mexico Policy, [151] which was retired in 1981 less than a decade after its authorship, O. Lucero stated, "That's another thing. All the things need to be brought out... What right do they have in not letting nobody [*sic*] else know about it?" (5202).

Hilario Romero describes the relationships with traditional and historic communities as "a hit or miss thing, but it's mostly miss" (5288). Examining historical contexts in everything he does, Romero examines the historical reasons underlying why the region's rural residents view the USFS with contempt and suspicion. He talks about Aldo Leopold to provide an example about how the USFS more often than not has failed to meet the needs of the communities it serves because it has recruited outsiders for most of its leadership positions since its earliest beginnings. Romero feels that Leopold enjoyed a privileged lifestyle and background, as opposed to the rural New Mexican populations, who struggled simply to survive. Moreover, Leopold lacked the concern and reverence for the forest's resources (Romero 5288).

Romero continues by saying that under Leopold's leadership,

> a year after the Court of Private Land Claims comes up with its conclusions [1905]—boom!—the Forest Service begins and starts basically taking over all the common and pasture lands of all the land grants in one single swoop, and basically displacing hundreds upon hundreds of families in New Mexico... And now, they have to work for the mining company, for the loggers that are doing the exact opposite of their land ethic, raping and pillaging in tearing down their forests. And the Forest Service is in cahoots with them! [5289]

Romero (5294), foremost, would like to see the hiring and retention of local people in USFS district offices. He feels that local residents, who know the area's forests, need to be part of planning initiatives. It does not matter if they do not hold advanced degrees in forestry; what counts is their traditional, intimate knowledge of the local forest. "We need to bring in rangers,

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[151] "[T]he Northern New Mexico Policy was oriented to stress the importance of valuing the Hispanic and Indian cultures of the Southwest" (Hurst 1972, in McSweeney and Raish 2012).

and develop and educate rangers, from... this region" (5294). He calls for a traditional land ethic, practical experience in the local forest, and education in the local forest as criteria.

He also believes that District Rangers should know the people of the local communities, maintaining that such knowledge "comes with the land ethic" (Romero 5294). This requirement comprises the foundations for a "cultural awareness" program designed to ensure social equality and equal opportunity in development of management policies and guidelines (5315).

Romero contends that the health and well-being of the forests has deteriorated under the USFS' administration because the agency's lands were fenced and "basically got closed to the public" (5290). Additionally, mines were opened, used to exhaustion, and left unreclaimed under the provisions of the 1872 Mining Act.

He discusses the USFS's need to acknowledge local expertise (after Romero 5320). He enthusiastically supports the incorporation of area residents for their insight and expertise in any and all area forest management projects.

Speaking on the issue of grazing lease permits, Romero (5311) suggests that the USFS should revise its permitting process to identify applicants who (1) practice the land ethic of their ancestors, (2) use sustainable ranching methods, and (3) produce products that benefit the local community. Holding the view that grazing public lands is a privilege, not a right, Romero (5314) also advocates legislative changes in Congress to counter actions by existing grazing permit holders who have come to think of their leased land as entitlements or even personal property.

Gilbert Sandoval reviews the history of land grant loss between the late 1800s and the early 1900's (5336-5338) and the devastation of the woodlands (5341-5343, 5347, 5348) held in private ownership in the Jemez Mountains area to provide a cultural-historical context for present-day critiques of USFS forestry management (5339, 5341). In his opinion, the scale and intensity of industrial logging on private tracts in the former San Diego Land Grant during the 1930s culled the best trees to the detriment of the forest "for the future, for long term, even to now" (5343). "[T]he wolfy, genetically inferior trees that they left" (5342) re-propagated the cleared forest tracts. Subsequently, the USFS has unfairly received the blame for the denuded woodlands that it only acquired through purchase in the 1960s (5346).

He adds the "unscrupulous, totally careless" (Sandoval 5348) lumbering operations on the Baca Location in the 1950s and 1960s to exploit privately held timber rights to their fullest fueled emotionally-charged public perceptions about logging. Public opinion, however, did not differentiate between the timber operations run by the USFS and those conducted by operators working private holdings. He holds that few members of the general public appreciate how USFS foresters used logging as a technique to enhance the quality of the forest (5381).

Sandoval feels that damages by commercial timber interests became "a black eye that the Forest Service did not deserve. It killed [the agency's timber] program that should still be in effect" (5350, also 5484). "Politically, logging became abnormal" (5383), with the SFNF Jemez District's logging program ending in the 1970s (5282).

Sandoval observes that misinformed public perceptions have contributed to what he calls "the demise of proper management" (5351) in the SFNF. He states people promote their values

> with good intentions. They feel that they are really responsible to be active to opposing a lot of those programs that include extractory practices, like logging, like mining, like grazing use of the land. [5352, also 5471]
>
> They became totally convinced that those were the practices [causing] the demise of the land. They failed to look at it more critically. [5353]

Sandoval (5354) talks about a proposal to reintroduce the Ro Grande cutthroat trout to the Rio Jemez Watershed as a current example of how misinformed opinion among the public at large is driving a movement toward implementing what he believes to be a poorly considered plan. He allows that as the cutthroat population has declined in the Rio Jemez watershed, brown and rainbow trout species are filling the void. Sandoval (5354) contends that the NMDGF has never considered why the cutthroats have declined, asserting that the loss of these fish is not a consequence of fishing pressure.

> Now, it becomes an emotional thing. Well, we've got to reestablish the Rio Grande cutthroat. How do we know that the environment will support it? [5355]

Sandoval (5357) maintains that the cutthroat trout is not an endangered species. He does not understand the justification for the proposal to re-establish this fish at the cost of eliminating the brown and rainbow trout. Additionally, he asks,

> How many years is it going to be before the Rio Grande cutthroat will reestablish itself to a quantity that the Game Department feels, 'Now we can let you fish'? But it'll probably be catch and release, or a trout limit of maybe two fish per. [5357]

An ardent fisherman who has eaten the Rio Jemez's trout his entire life, Sandoval is deeply concerned that in the end, "We lose the ability to go out there and fish, so that we can eat the trout (5357).

Sandoval is critical of the restrictions imposed on the SFNF's management of its forests, saying that since 1975, there has been "no management... in the forest" (5384). He explains,

> Ignoring it is not management. Abandonment is not management, and literally, that's what we've done to the timber resource. [5385]

He shares that "it hurts" (5413) when he looks at the Jemez Mountains' forests today given their poor condition. Expressing his view of the dog-hair pine woodlands that now predominate, he says, "You can't see the forest for the trees" (5420).

Sandoval views the result of the effective termination of the Jemez District's logging program as a waste of a valuable resource. "We've lost probably 500 million board feet of timber to mortality. They just die and fall over" (Sandoval 5386, also 5414). Compounding this waste has been "[t]he freedom to use the land and the ability to apply management to the land because you know it needs it" (5444).

He mourns the loss of income from logging fees that the Jemez District once used for habitat improvements (5415, 5416), woodland restorations following wildfires (5344) and lumbering (5417), and range improvements (5427). Revenues produced by logging operations also went

> to the county to support schools and roads. Going back to the district to keep rurally employed to where they can live in the environment that they're used to and close to their roots. [5447]
>
> So, all of that is lost because the revenue to do these things is gone. That's where the revenue came from. [5416]

Continuing on the theme about the benefits that logging can offer to forestry management, Sandoval maintains, "What we took away was Man's way of putting it back into production" (5401). Extractive activities, such as logging, can produce habitats for animals by enhancing food bases, such as grasses, forbs, and shrubs.

He decries the impact that the shutdown of the logging program has had on the local economy. Sandoval (5443) estimates between 7,000 and 8,000 households in the Jemez region lost their primary breadwinners (sawyers, skidders, and truckers) when logging on the forests ended four decades ago. This loss of jobs, in turn, has contributed to the exodus of people from the Jemez. Now, the return of a significant logging industry is unlikely because of high regulatory costs, as well as the loss of critical infrastructure, including the closure of the region's five major mills (Sandoval 5442).

Sandoval views the USFS' mission as one that includes "[c]aring for the land, serving the people" (5483). He adds, "I thought that multiple use was the answer to all conflicts when it was first introduced" (5486). The introduction of the multiple use policy, Sandoval notes, preceded the passage of NEPA and Endangered Species Act. He believes, however, that NEPA and other environmental legislation have since become corrupted by greed by some interests and now impede fulfillment of a responsible multiple use policy (5486).

Sandoval would like people to appreciate more broadly

> [t]he harvesting of forest resources is not that demanding that you have to demand every square inch. There is room in the forest for all interests without disregarding other people. [5485]

He concedes, "The practice of the extraction of a resource is going to cause impact" (5436). He stresses that responsible management, such as that which he believes the USFS has done in the past and should be allowed to practice again in the future, carries the

> responsibility to go mitigate those impacts, and if you don't, then you're going to lose it. And that's what makes me sad because we've been losing it for the past 40 years. It's not getting better by ignoring it, and it's not getting better by abandoning it, and it's not getting better by closing off areas from entry for people. [5418]

Sandoval feels that critics of USFS' management policies and practices need to exercise greater patience. Speaking of logging,

> [t]here is a vulnerable period where that impact is very evident, and the practice, the professional application if that extraction process, is very vulnerable. The critics—the people that come and see that—their immediate reaction is 'stop that!' But they fail to see it after the mitigation practice has been applied and time has cured it, which is part of the objective of a mitigation, then you see it as a finished product. [5436, also 5438]

Speaking of mitigation management results, he observed during his professional forestry career,

> It is slow and long term. You have to live it in a period of years, not a period of days in order to see the results of your work. [5431]

> Time is going to take its time. [5437]

Sandoval (5434, 5435) discusses the lack of continuity in USFS districts because of employment policies that require personnel to move to advance their careers within the agency. He feels that district rangers should be residents of the community in which they serve (5487). Through his career in the USFS and his life-long membership in the Jemez Valley community, Sandoval (5474) has found that district rangers' residence in and their familiarity with the rural communities that which they serve effect how people accept them and their practices.

He views good communication with the community is an essential part of effective management and respectful policy implementation (5474, 5488). He recommends that district rangers sincerely invite the community "to become part of the decision-making process" (5475). In practice, Sandoval (5477) feels that although the local community knows the land the best, the USFS does not value the input of local residents appropriately.

He feels that "on-the-job training" is the most important part of a forester's preparation for their work. He is dissatisfied that few managers today stay in one place "long enough to see the results of the programs that they initiated during their tenure in the district" (5434). He has asked individuals with whom he has worked at the SFNF Jemez District over the span of his career, "Don't [you] want to see whether it was successful or a failure so you could learn from it? (5434).

Sandoval (5455-5457, 5459, 5460) expresses considerable unease whenever proposals concerning the use of poisons to manage vegetation (e.g., mistletoe), insects, pesty animals (e.g., coyotes), or fish (e.g., the elimination of entire brown and rainbow trout populations in preparation for the reintroduction of cutthroat trout). "To me, using the word 'insecticide,' using the word 'poison,' right away rings a bell" (5459).

Poisons, Sandoval has experienced, all too often have unintended harmful consequences. He reports seeing poisoned meat that was set out to kill coyotes also kill bald eagles, other kinds of raptors, and bears (5455). He also recalls that poisons dispersed in the attempt to control spruce bud worm infestations, killed "the song birds, too" (5456). Area residents did not see robins in the spring for many years afterward because, proverbially, "the bird ate the worm" (Sandoval 5456).

Sandoval feels that "too many bad memories" (5454) associated with the USFS' prior use of poisons have undermined his community's trust in the agency. He maintains that Jemez Valley residents have already "been burned twice" (5458). He has concerns about the wildlife that he and his family eat.

Roberto Valdez shares that his grandfather, who was born in 1919 after the establishment of the USFS, would talk about the time before the USFS

> as though it was a time of yore—'*no había floresta*'—and you were able to make certain decisions. He would express it now in terms of you being very constricted and directed. [5585]

Valdez (5574), just as his grandfather, feels constrained in his dealings with the USFS, given its requirements for permits and fees even for small quantities of resources (e.g., firewood, mushrooms, non-timber forest resources, and rocks). The segmentation of the landscape in accord with today's political boundaries and the commodification of resources is inappropriate (5615). Moreover, he says, "Carrying capacity is a rigid, mathematically formulaic way of approaching things that did not account for the way...natives often do it" (5618). Furthermore, he feels that policies often are driven by saving "the forests for economic benefit" and notes that the benefits "as not always residual for the local people" (5626). Skeptical of policies "guided by maps" (5614), Valdez seeks strategies informed by ecological and cultural-historical processes.

Valdez (5515) feels that discussions about public land management policies need to consider who is being excluded and what exclusion does to a culture. He specifically recommends that the USFS and other federal land management agencies factor in the congressional designation of the Northern New Mexico Heritage Area (NNMHA) in their policies and guidelines such that they are more responsive to the NNMHA's mission to "preserve the way of life here" (5593, 5636). Policies, he maintains, need to be inclusive to prevent further marginalizing people who are trying to sustain their traditional cultures and honor their histories (5600). Valdez concludes, "Sociology needs to be integrated into the policies made by managers" (5640).

Given the preceding background, it is easy to comprehend why Valdez is critical of programs imposed from afar wherein "one size fits all" (5593, 5608). Given the variability in the local environment, as well as among the people of the various Mountain Hispanic and Pueblo Indian communities, Valdez calls for the need for local stakeholders to be active participants in developing policies for the areas in which they live (5616). He contends that residents of the traditional and historical communities had to figure out the sustainable management of the local area, or else they had to move (5637).

Valdez advocates further that agency land managers should not just look to the rural communities in their districts for information that they can use to develop sustainable management policies and guidelines sensitive to the local environment and people. He holds that they should also engage the communities in forming co-operative management agreements:

> Government policy and certain agencies should look at this as an opportunity because there's a whole lot of work to be done and they can't do it all... Have the basic local community be like ants, constantly doing something and gathering things. [5621]

In support of his opinions that area residents need to be actively included in the management of public land within their traditional homeland sustaining areas, Valdez offers a poignant comparison between northern Jemez Mountains' Hispanic rural communities and the USFS with regard to wildfire frequencies and intensities:

> I dare say that the Cerro Grande and Las Conchas [Fires] occurred in areas that are highly regulated and managed. You go to areas around Coyote, the fires are significantly smaller—and have been smaller. People have been running their cattle all over the place there. I dare say we probably will not see a fire of the velocity and power of Cerro Grande and Las Conchas in areas around Coyote, [the] Sierra Nacimiento where the San Pedro Wilderness is, or any of those areas where people are still practicing traditional resource procurement. I count cattle grazing as one of them... The areas that I know of that are being burned very heavily are areas that are no longer being used for cattle raising. Government is the dominant factor... in this eastern face of the mountains, and as a consequence, this place has gone up in flames. [5641]

In framing this contrast, Valdez makes clear why he rejects the attitude, "If we know forests scientifically, we know best" (5617), that he feels is characteristically conveyed by USFS managers toward the rural residents of the Jemez Mountains. He cites empirical grounds, as well as the attitude's inherent lack of respect, as the basis of this renunciation.

Fred Vigil (5715) finds that are more USFS rules and regulations now than there were in the 1950s and 1960s. He agrees with the statement that the USFS policies have contributed to

the breakdown of the community because the prevailing management process emphasizes the individual.

He also feels that the USFS and other land management agencies need to be more human and less autocratic (5793) in their interactions with the communities they serve. Through his comments about the need for communication among the other Hispanic grazing permit holders, the USFS, and the Pueblo of Santa Clara when his family was actively running cattle in the Jemez Mountains' summer pastures (e.g., 5742), Vigil makes clear that all of the engaged parties need to show respect and exercise civility toward one another even when there is a difference of opinion. He introduces the Spanish concept of *granijar* (to gain the goodwill of another) and offers the observation that all parties need to remain true to their word as keys for creating and maintaining fruitful relationships (5716).

Vigil feels that the land management agencies would do well to trust and empower communities in the management process. "I think that if the Forest Service would leave a lot of the decision to the local people, things would get done" (5713, 5714). When he notes that mentors are invaluable, Vigil introduces the idea that local communities, through their intimacy with the local environment, could serve as mentors to government agencies (5785).

When asked a question about what stakeholders can do to help the forests, Vigil (5717) responds that area residents can contribute to the thinning process, provided they have access to public land for fuel wood, *vigas*, and other forest products needed for personal use. He also thinks that ranching operations can be helpful by managing "the cattle to clean up" (5717). It is in this context that Vigil cites a common refrain among cattlemen: "Forests are burning now because we've got all of this junk—all of the dead trees, all of the dead grass—and the animals cannot get into it" (5708). While considering the topic of thinning, Vigil remarks that logging has a place in forest management. "We should know by now what to cut and what not to cut, and where" (5772).

Addressing the issue of ranching policies, Vigil (5748) feels that the permitted season for running cattle on USFS lands is too restrictive. He feels the present June 1 to October 15 eventually should be extended to begin in mid-May and last through the end of October. The extra two weeks in the mountain in the late fall would help the cattle to fatten faster and develop

heavier coats. The animals also would benefit by eating acorns, which help them put on lasting weight for the winter. Furthermore, he believes that such policies would be better in keeping with the livestock's "nature" (5748).

He also would like the USFS to establish a waiting list for permits rather than effectively cutting off all the people who do not have the economic resources to purchase an existing lessee's permit and herd (5708, also 5746). Currently, there is no system to enter into the permit process, nor is there a system for evaluating the possibility of increasing the number of permits (5747). Vigil feels as though the USFS only seems to reduce the number of cattle. He also believes that if the USFS was to increase the number of head by several hundred animals in all the tracts that had burned in recent years, there would be negligible impact. Moreover, this practice could be sustainable given how pasturage benefits from the release of nutrients during burning and would contribute to the local economy.

Road Closures

> *We shouldn't be closing roads because what it effectively does is to close people off the land.*
> Roberto Valdez (5594)

Louie Hena (4101), Fred (4928) and Orlando (5074) Lucero, Gilbert Sandoval (5480), Porter Swentzell (4602), and Fred Vigil (5735) express concerns about SFNF road closures in the Jemez Mountains that complement Robert Valdez' remark. While most of these individuals concede that unmanaged access and eroding roads are justified concerns, all participants are worried that road closures would be too broadly implemented. They fear that the residents of local traditional and historic communities would be further alienated from the woodlands that form the peripheries of their respective landscapes. These individuals also worry that road closures represent the continuing failure of present-day USFS management policies to sustain the environment.

Louie Hena (4101) indicates that he is fine with road closures in principle. He says that he hikes into remote forest areas and dislikes hearing vehicle noise because it disrupts the sense of solitude, as well as the privacy that he enjoys and seeks (4103). Nonetheless, he does not want to see the roads, upon which he depends for general access into the Jemez Mountains, being

closed without good reason and prior community involvement. Hena (4101) reports that he has never been contacted by the SFNF for his input about any proposed road closures, nor is he aware of any public comment process. He admits that if consultation has ever taken place on this subject, USFS managers most likely would have only directly engaged the Pueblo's government in accord with the terms of their government-to-government relationship.

Porter Swentzell (4602) and his family members, just has Hena, drive on existing SFNF roads to reach trail heads from which they hike to go further into the Jemez Mountains' forests. He acknowledges that some roads are in poor condition because nobody is currently looking after them; therefore, he understands the rationale of closing some roads out of concern for safety, erosion, or abuse. On the other hand, Swentzell and his family still are dependent on firewood for heating their homes and require access to firewood; therefore, he maintains that roads are required.

Embracing the ethic that privileges come with responsibilities, Swentzell feels that all stakeholders share in the obligation in maintaining the forest habitats that they want to use. Recalling Fred Vigil's prior comments about cattlemen traditionally maintaining the roads that they used for their cattle operations in the SFNF (see *Ranching* in Chapter 13), Swentzell comments reflectively,

> Maybe if you had taken an active part in helping to fix the roads, of sustainable resource management..., we might not even have a problem with the road closure. [4614]

Fred Lucero states, "I'm a strong believer in limiting the amount of access, but they've got to keep them open for maintenance..., and wildfire" (4928, also 4929). He's also an advocate of keeping forests next to rural communities open to area residents who depend on the woodland resources (4937).

As a person who both burns wood for fuel and is concerned about wildfire, F. Lucero (4928) maintains that managers need to keep in mind that many people will not be able to harvest fuel wood, thereby helping reduce accumulated fire fuel loads. Additionally, he is concerned that fire fighters will face formidable access issues of their own, should forest roads be widely closed. Speaking as a rancher, he worries that widespread road closures would affect

his ability to run cattle in his grazing lease areas (4928). F. Lucero thinks that the use of locked gates, to which authorized lessees are issued keys, is one way to reduce traffic flow into environmentally sensitive woodland areas while maintaining needed infrastructure.

Orlando Lucero (5077) reports that SFNF personnel have never talked with him directly about which forest roads he uses. He says that although the agency has assured him that he will "always" have access to his cattle lease areas in the forest, he depends on different roads for hunting and other activities. Whenever he hears talk about the possibility of road closures on the Jemez Ranger District, he feels as though the District Ranger is acting on requirements developed by high-level mangers in the SFNF or region to close a certain percentage of roads without properly evaluating the need for road closures on a case-by-case basis. Just as his brother, O. Lucero (5081) wonders what will happen when there is a wildfire but road closures impede access of fire teams into remote forest areas.

Gilbert Sandoval states that there are many reasons for people to go into the forest: "Body, mind, and spirit" (5481). Mountain experiences, however, require access into the backcountry. Roads are needed.

Sandoval admits that some of the proposed closures make sense. Roads have now become an erosion problem because there is no revenue for their maintenance (5445). He, however, feels that proposed closures are often based on targeted percentages, not the "steepness of roads, on locations of roads" (5478). He describes the road closure issue as one where managers are "over reacting" to a problem caused by a small minority ("5%") of ATV users, wherein the other 95 percent of the stakeholders then suffer the greatest practical consequences. He laments the situation whereby the USFS sees

> fit to go do a transportation plan to further block the road from entry, and kick you out of the forest you depend on for your sustenance and for your enjoyment: Mind, body, and soul. [5447]

He calls for the use of common sense, contending that the adoption of overly broad policies to close roads and restrict access by off road vehicles is not good management (Sandoval 5480). He maintains that wide-scale road closures will "further the deterioration of the forest"

5448). For this reason, he characterizes road closures as constituting a continuing process of forest abandonment (5451).

> Along with abandoning the professional management and extraction, you also abandoned that infrastructure. And you made it—you developed it--into a detrimental infrastructure to the land. [5445]

He adds movingly,

> The reason, I feel, that they close areas for entry is that they're ashamed by what people will see behind that locked gate. Because you will see that it is a totally unproductive chunk of land. There's no wildlife whatsoever because they can't live there. There's no habitat. [5419]

Roberto Valdez (5607) acknowledges the forests are now suffering damages resulting from ATV misuse. He maintains, however, that vehicle misuse is much less of a problem in rural areas away from the WUI.

He shares Sandoval's view that road closures are the product of a lack of engaged management; rather, it is symptomatic of a hands-off approach (Valdez 5603). He contends,

> If this road closure goes through, we're seeing a continuation of the very thing that will bring more disaster... Somehow, the message has to get out that things are not rigid in abstract. You don't solve the problem by cutting Man off from the landscape... [5643]

> What about the piñon pickers? What about wood gathering when you see the amount of fires that are breaking out in burning huge swaths of area? Or pine beetles attacking trees and leaving lots of dead and down? [5595]

Valdez (5606) views proposed USFS road closures as inconsistent with the mission of the NNMHA to help foster conditions to sustain the cultures of northern New Mexico's traditional and historic communities. He criticizes road closures that force him and his neighbors to trespass onto public lands to obtain the forest resources they need to continue their traditional cultural practices (5604, 5605).

Just as the others, Fred Vigil recognizes the need for some road closures, but he adds,

> Roads are important. It's how you manage the roads. You can have a road that is not eroding, that is not intrusive to the environment, that people can go in and pick up whatever they're looking for. It doesn't have to be closed. [5735]

Vigil maintains further the USFS needs to let the people know why the agency identifies roads for closure, give them alternatives, and ask them to be part of the closure and environmental remediation process (5735). Unilateral imposition of policies that cut people off from the land fosters contempt (5736). He adds that if the land management agencies engaged their stakeholders to foster an environment of co-management whereby local communities formally shared in the stewardship of their traditional lands, roads would be used and maintained (5710). Just as before, the local communities could do what needs to be done.

Costs of Recreation on Public Lands to Local Communities

> *I think that the Forest Service could take a bigger role in overseeing recreation, take ownership of it, not just open the gates. 'Adios, it's open. Go for it.' The local community carries the burden.* Fred Lucero (4970)

Fred Lucero observes, "We are surrounded by Albuquerque, Santa Fe, Espanola, and all the little towns in between. All come into the Jemez from all sides" (4941). He adds that the Jemez National Recreation Area is the only tract of its kind in the vicinity, but it largely lacks adequate facilities, such as campgrounds, restrooms, and trash receptacles, where people camp across its expanse (4947). He reports that because the USFS lacks staffing to provide visitors with law enforcement and rescue, the Jemez Valley's residents have to carry the burden—"We're left out in the cold" (4943)—their local law enforcement and emergency medical services are overloaded. He calls for greater regional coordination among land management agencies to provide safety and health services, as well as basic amenities, for the people they encourage to visit, use, and enjoy the lands under their management (4947).

Orlando Lucero views the establishment of the Jemez National Recreation Area as "a bad deal... They should have put in money for bathrooms, for tables, for parking. But they just make a big, old sign, and trash is all over" (5096, also 5068, 5091). Citing the lack of basic infrastructure and the fact that Sandoval County has carried the burden of police, rescue, and emergency medical over the past few years (5098), he concludes, "If you're going to do something like that, they better have the whole program right, not just part of it" (5069).

O. Lucero (5171) points out the Jemez Valley's residents took an economic hit—and the Jemez Springs community, in particular, was "really hurt" (5173)—when the U.S. purchased the Valles Caldera and the USFS established the Jemez National Recreation Area. That is, the Dunigan Family paid state and county taxes, but the VCNP and the USFS do not (5172).[152]

Sweat Equity and Community Service

Something positive happens when you gather people together. Porter Swentzell (4647)

Porter Swentzell (4506) feels that the Jemez Mountains forests are shared and belong to the people. He holds that stakeholders, who want the privilege of using the forests, also need to accept the responsibility of caring for them as their stewards. He maintains that comparatively few people really make the connection between their actions and the consequences of what they do, however; there is a kind of "disconnect" (4608).

Drawing from his experience as a member of the Santa Clara Pueblo, Swentzell (4603-4605) advocates a system that requires the participation of its people in projects to benefit the entire community. He reports that at his Pueblo, community-centered programs promote community participation and follow age-old community traditions (4604). Additionally,

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[152] Fred Vigil (5761), who is the current Rio Arriba County Assessor, wonders if the cattle being run in the VCNP are being assessed properly. The Sandoval and Rio Arriba Counties might be losing tax revenue. He states that he knows first-hand that Rio Arriba County is not receiving anything. He explains that local people must report their cattle for taxation. The money goes out to local schools, hospitals, etc. Vigil maintains that the VCNP's ranching program should be benefiting the local communities in a similar manner.

everyone's participation makes the work easier because the responsibility is shared. This sharing of effort, in turn, fosters and sustains social bonds within the community.

Swentzell (4607) wonders if governmental agencies could sponsor "National Service Days" to repair roads or to pick up trash ("lawn patrols") as part of a community-based land management initiative. The goal, he suggests, would be to encourage people to do what they can to promote community where they live (after 4612).

Swentzell's discussion turns to ideas of "sweat equity" (4639) and the "honor" of community service (4647, 4648). He asks rhetorically if there might be a way to think about a new kind of "Arbor Day" in which people variously go into the forest to help thin the undergrowth. For example, he suggests that younger people might be encouraged to cut wood for elderly people who depend on wood for heat.

To implement programs of sweat equity and community service that benefit both the forest and local communities, Swentzell (4649) raises the idea of land agencies developing programs whereby they exchange permit fees for specific kinds of labor contributions. For example, individuals could receive wood-cutting permits at no cost if they agree to remove only dead and down wood in tracts requiring fire fuels treatment. Alternatively, Swentzell proposes initiatives between cooperating federal and state agencies that acknowledges a person's service in some authorized management activity with preferential treatment in obtaining a hunting permit in their home landscape.

Fear, Resistance, and Divorce

> *It's the 'us' against 'them' kind of thing... This used to be ours to use, and the people used it responsibly. Now they control it.* Charlie Carrillo (4768)

As recounted earlier in this discussion, Debbie Carrillo (4768) recounts being raised in a social and political environment wherein she, even though still a child, learned to be fearful of the SFNF and its agents. She shares, "I do remember them saying... 'Don't get on the Forest property'" (4769).

Her husband, Charlie, explains that this fear is rooted in the fact that the agency has exercised ever greater power and control over the forests since World War II, if not earlier during the prior century (4768). The people were limited in the scope and scheduling of their traditional activities:

> You have to get a permit to pick plants [other than piñon nuts], you have to have a permit to cut wood, [and] you have to have a permit for grazing... Everything was permits, permits, permits. And that goes back even into the '40s. People talking about it. It was all regulated, except piñon. Piñon was like a free cash crop. [4770]

Roberto Valdez describes why he and his neighbors are fearful of the USFS and other government agencies when it comes to observing the traditional land use practices of their community:

> I remember a time when gathering wood..., from random areas that clearly were damaged, or gathering rocks by the side of the road, you didn't have as much fear. Now you're always looking over your shoulder because the prevailing attitude in society since the '70s is, 'You have to have permission for everything.' People traditionally went about their business doing what was needed, such as removing fallen rocks along the road sides that they can use. Today, however, people are fearful that they will be ticketed or fined. [5569]

Valdez (5571) recounts the time that he was immediately off State Road 4 in the Bandelier's Cañon de los Frijoles. He had stopped to harvest a small quantity of rotted wood (*honchera*) from a dead and down pine tree that he needed to complete a buckskin project. A NPS Law Enforcement Ranger saw him and approached to put a stop to his unpermitted gathering activities. Valdez recalls that the Ranger was puzzled over what regulation he was violating, because it neither fit the definition of a wood gathering, nor a fruit gathering violation (email to Kurt Anschuetz, September 2, 2013). After issuing Valdez a stern written warning, the law enforcement agent made him dump out the *honchera.*

Valdez recalls that the Cerro Grande Fire consumed the site where this episode had taken place the following year. He also feels that this account, which illustrates the mismanagement of public lands, contains an "element of irony. One year I'm getting "busted" for harvesting *honchera* and the next it burns in a great fire initially started by the Park Service..." (Email to Kurt Anschuetz, September 2, 2013).

He states that this experience fuels his cynicism toward agencies that are supposed to be managing the mountain's resources (5572). Valdez maintains that many other people in the region have similar experiences and feelings and adds that the USFS' periodic proposals to close roads only heightens people's levels of fear and mistrust (5595). He concludes by saying that there is "a residual bitterness that a lot of people have here about the people who removed land and access to places of nostalgia and connection" (5540).

Fred Vigil talks about the need for land management agencies, such as the USFS, to acknowledge that the land is the people's land:

> The sooner you start forgetting that it was part of your land, and eventually it's Forest Service land and you have no control over it. You have no thoughts or respect for it. [5726]

As a consequence, the land becomes abused through acts of resistance. Vigil explains,

> You don't think of it as being part of yours or [you having] a relationship with it. [5726]

> People become angry that their land is no longer accessible to them. Sometimes you can punish the land more. [5727]

Vigil shares a highly personal account of his sense of growing alienation from the Jemez Mountains' forests while discussing the feelings he experienced during the North Fork and Las Conchas Fires. In response to a question about what he felt when he saw the wildfires, he responded bitterly, "I can't use it. Let it burn" (5737).

He explains that the Jemez Mountains' forests, which taught him so much while he helped his father run the family cattle near the Valles Caldera, have become foreign to him since

he has been excluded from the management process as a rancher. He speaks of how he misses going into the mountains that he visited when he was younger. "We were separated. There was a divorce" (5737, also 5764).

Vigil feels that he no longer has a living attachment to those places that he cannot see except from afar.

> If you have no attachments to it then, it just burns. All you say is, 'I hope it doesn't get to my house.' But it does. It gets to other people's houses. [5737]

And Vigil and all of the residents of the Jemez Mountains pay more for fire insurance.

Vigil confides that, despite his sense of alienation, "The forest is very, very important to me" (5739). He shares that he hikes the back country to tease the elk and inspect the burn scars.

> You see the scar. You get to see all the little creeks where it did rain, that have brought all the ash. The whole area is black and nothing is green... I do care. [5738]

Nonetheless, Vigil always feels a tension between his positive experience of being in the mountains and the negative experience of living with the decisions made by land managers. "It's the divorce" (5739). The USFS is driving him away. The USFS does not let people be a part of the forest. He shares, "It can hurt to care" (5739).

Government Service and Educational Programs

Gregory Cajete (3915), Charlie Carrillo 4775), Peter Pino (4500), Hilario Romero (5295), Porter Swentzell (4644), and Fed Vigil (572) talk about government programs, such as the Civilian Conservation Corps (CCC) and Works Progress Administration (WPA), which provided young people with work and educational opportunities in the region's forests in the past. They feel that these programs, if updated for the twenty-first century, could benefit both the forests and the region's rural communities. Swentzell neatly summaries the shared opinion that such programs could again offer local residents opportunities for employment, as well as create

avenues by which managers can learn and apply the knowledge that exists in the local communities.

For example, as an adolescent, Gregory Cajete (3915) was a participant in Santa Clara Pueblo's Tribal Work and Employment Program (TWEP) initiative and spent at least one entire summer in Santa Clara Canyon. He talks about how he became familiar with the archaeological traces of his ancestors who had lived and farmed throughout the Canyon long ago (3937). He recalls that the Bureau of Indian Affairs also sponsored projects including the construction of dams, log cabins and trails, and other activities to enhance the canyon.

Peter Pino (4500) shares that Zia Pueblo Governor Marcillus Medina worked for the "Youth Corps" planting trees when he was young. This activity took place in an old burn scar on the Santa Fe National Forest near Battleship Rock. Pino reports, "He's proud of these trees being there, and he connects with those trees because he was given that opportunity" (4500).

Charlie Carrillo is outspoken in his support for work corps programs, modeled after the WPA and the CCC programs of the 1930s. "I think, why the hell don't they hire people to pull all that wood out of there and make it useful?" (4775). He calls for the government to give young people jobs and teach them how to use old-fashioned equipment, such as axes and saws, to help reconnect with the lives and lifeways of their ancestors.

Hilario Romero feels that the CCC camps were "phenomenal" (5296). Not only did the CCC program result in some very good "green" forestry management, it had an educational component that benefitted participants throughout the rest of their lives. He favors the creation of a contemporary CCC-like program that would look at wildfire, landscape, forest products and watershed management. Romero adds,

> You make it permanent...Make it something for the future, to carry on generation after generation. You make it sustainable. [5296]
>
> We need to get young children educated... [and] ...get them into the wilderness, and show them what's going on. And show them how they can be part of it and make [the forest] better. [5298]

Fred Vigil (5720) similarly recommends the establishment of an updated CCC or WPA program[153] to thin the region's overgrown forests. He thinks that such a program would be good for young people today. Not only would there be employment, "Why have the gym when you have the forest?" (5721).

Vigil (5722) observes further that such programs built valuable infrastructure that people still depend upon today. He agrees with the statement that such a program today could have a cultural-historical education component and foster a sense of pride among young people in the accomplishments of their communities (5723).

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[153] Vigil (5720) reports that his father participated in the CCC program at Bandelier and was later stationed at the two camps up by El Rito from which crews worked principally on the Carson Nation Forest.

CHAPTER 18
TRADITIONAL AND HISTORIC COMMUNITIES' VIEWS OF ENVIRONMENTAL CHANGE IN THE JEMEZ MOUNTAINS

> *It's not the cattle that are screwing up the environment. It's us [people].* Orlando Lucero (5127)

In response to questions about environmental change, many participants from traditional and historic communities immediately cited the decline in the deer population and the dramatic increase in elk over the course of their lifetimes (e.g., Louie Hena 4111; see also *Hunting* in Chapter 13), as well as the reduction in rain and snow (e.g., Hena 4168; Orlando Lucero 5066, 5067, 5126, 5146; Anthony Moquino 4313; Peter Pino 4471; Porter Swentzell 4591, 4592). Rather than talking about drought, however, Hena says that we are now experiencing a return to "more normal" (4173) conditions following the wet cycle, which has dominated the Southwest's climate from the 1970s to the mid-1990s. Pino shares additional observations about how decreasing precipitation is contributing to a reduction in the flow of Jemez River water reaching Zia Pueblo (4471-4473).

The Lucero Brothers report that many of the changes they see today are due to the activities of the rapidly growing number of people who are visiting the forest. Fred Lucero states, "The impact of people...just overwhelmed now" (4964; also see O. Lucero 5067). F. Lucero (4965) adds that there has been a big difference over just the past five or six years on the mesa tops, with people visible just about everywhere anymore. These visitors, in turn, have brought ever greater amounts of trash (Hena 4096, 4097; F. Lucero 4938; O. Lucero 5068, 5096; Tito Naranjo 4424, 2225, 4431, 4436) and erosion (Hena 4098).

Respondents also discuss the on-going changes they are witnessing in the Jemez Mountains' vegetation. Naranjo talks about how the Jemez Mountains' forests have changed

since he was a child: "It has become very, very different over my lifetime" (4406). There were huge stands of aspens in the Valles Caldera; however, these stands are now dwindling (4407). O. Lucero (5126), Hilario Romero (5274), and Fred Vigil (5684, 5688) mention the unhealthy, overgrown forest conditions that so many of this study's participants have repeatedly noted throughout their commentaries.

Charlie Carrillo recounts his wife's grandmother telling him that there were no trees within a 1-mile-radius of Los Rechuelos. The forests beyond this zone were much less dense. Today, however,

> Now you're up in Los Rechuelos, and it is... so overgrown, you can't see even see a house foundation anymore. That's only in the last 60 years. [4761]

Just as Romero (5272), C. Carrillo attributes the absence of sufficient fuel wood cutting and logging, as contributing factors in the frequency, intensity, and size of wildfires today.

O. Lucero adds that there was"[a] lot more wildlife" (5126) and more grass because tree densities were lower and forest stands had not yet encroached into pastures (5146). Anthony Moquino (4313) suggests that piñon crops are smaller and less reliable.

Swentzell (4641) anticipates that one outcome of current climatic conditions and wildfire patterns will be an increase in the number of berry shrubs. He suggests that the traditional and historic communities, such as Santa Clara Pueblo, might consider using berry picking to expand people's activities in, and interactions with, the Jemez Mountains' forests. Gregory Cajete (3927) notes that recent wildfires will result in habitat conditions more favorable to deer.

Pino says that he has not yet seen much directly in the way of climate change first-hand. He notes, however,

> When the elders talk, they always said, we were getting to the end of the world as we know it, there will be... world problems, that there will be wars all around us, everything that's negative, corrupt leaders, and all of that. When you start noticing that, [it] signs that the end is near. I always thought I'd be gone by then. I didn't have to worry about that. But the future that they were predicting, I think, is now the present. [4553]

He cites Hurricane Katrina, the tsunami in Japan, and the events associated with September 11, 2001, as some of the signs that the world is approaching its end (4555). He also sees in his day-to-day work that "more and more people are being interested in our ways" (4554), which he views as yet another signal that the end is near.

CHAPTER 19
DISCUSSION AND CONCLUSIONS

What People Said

Thirty-four individuals contributed much valuable information and insight through a series of 33 interviews[154] in which they voiced their opinions about what constitutes appropriate access to, uses of, and fire and fire fuels management in the VCNP and adjacent areas in the Jemez Mountains (Chapters 5-18). Although they come from diverse cultural, educational, and experiential backgrounds, their love for the Jemez Mountains is unconditional. Each person's embrace of this landscape is genuine and moving; every participant desires to be a part of this physiographically, ecologically, culturally, and historically remarkable setting. The Jemez Mountains—or at least the portions of this range that the project's contributors have come to know through their experiences—not only are a part of their home. These mountains are also a part of who they are.

Every contributor shared the hope for the Jemez Mountains' forests to return to healthier conditions. Participants with robust experience and training in biology, ecology, or forestry embraced the project's focus on fire and fire fuels management to talk extensively about the dual needs to restore fire in forest ecosystems and reduce high fuels loads following many decades of forceful wildfire suppression. They discussed in detail what they perceived to be problems associated with aggressive suppression, as well as the potential benefits that prescribed burning and mechanical thinning could provide in restoring and maintaining forest health. These individuals widely supported wildfire policies that allow fires to burn if life, property, and

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[154] As a reminder to the reader: Dr. Charles M. Carrillo actively participated in the interview of his wife, Ms. Debbie Barbara Carrillo.

watersheds are not threatened. Furthermore, they maintained that responsible wildfire management requires:

- Long-term planning;
- Interagency coordination and cooperation;
- Flexible decision-making matrices that include consideration of local conditions;
- Clear communication among the region's diverse local, state, federal and tribal land management agencies and the public; and
- Acknowledgement of—and respect—for the knowledge and acumen of the area's traditional and historic community members (Chapters 5-7).

Collaborators with personal histories of intimate interaction with the Jemez Mountains' forests through their activities as ranchers, fuel wood cutters, piñon pickers, hikers, hunters, fishermen, equestrians, artists, and the like, offered complementary perspectives. By virtue of their hands-on relationships with the Jemez Mountains often spanning many decades, they offered pragmatic eyewitness testimonies about how their beloved woodlands have become less diverse, productive, and inviting because of their dense, snarled growth and thick blanket of deadfall debris and duff. In talking about wildfire's many benefits, several of these individuals shared their communities' traditions of viewing fire as a blessing from which all natural life benefits, including the people themselves.

While all contributors expressed concerns over the possibility of prescribed fires escaping to become wildfires in and near the WUI, they described the need to reintroduce fire into the forest ecosystem as great and pressing. Some individuals expressed confidence that lessons learned from the Cerro Grande Fire, which was an escaped prescribed fire that burned through the city of Los Alamos with disastrous consequences in 2000, were contributing to more effective fire fuels mitigation policies and programs that could substantially the risks of escaped prescribed burns. One participant, who knows of multiple episodes of prescribed burns that had escaped to become catastrophic conflagrations from the experiences of people with whom he is close, does not accept these assurances, however. He remains extremely uneasy with prescribed burning as a fire fuels reduction strategy given the dangerously high fuel loads extant in the forests. Motivated by their lasting concerns about the potential for prescribed burns to become

wildfires, many respondents offered succinct recommendations governing the use of prescribed burns in the VCNP and other sensitive settings, such as the WUI and the watersheds upon which communities depend.

A few Pueblo individuals shared their thoughts about the meanings and implications of artificially-induced ignitions. These compelling commentaries not only provide contexts that help outsiders understand the sense of devastation that Native American communities may feel in the wake of devastating wildfires resulting from ignitions related to some intentional or unintentional human activity.

In framing their remarks, these respondents raised fundamental philosophical issues concerning the appropriate scope and structure of human actions to facilitate the reintroduction of fire into the Jemez Mountains' forests through the use of prescribed burning directly—and other highly invasive approaches to thin overgrown woodlands indirectly. These comments underscore opinions shared broadly among traditional and historic community participants that a key to returning forests to healthier, sustainable conditions in which wildfire is welcome, is the adoption of policies that acknowledge, respect, and perpetuate the traditional access and use of the forests by the mountains' resident communities. Namely, the participants of the Jemez Mountains' Pueblo and Hispanic rural settlements steadfastly maintain that their respective communities' traditional, small-scale, everyday activities were—and again should be—an integral part of the forests' ecology.

Persons with formal training in the natural sciences shared generously and ardently of their knowledge and perspectives about the importance of fire education in building public trust for wildfire and fire fuels management programs designed to mitigate wildfire risk in areas of vital community infrastructure in the WUI. They stressed the responsibilities of private individuals living in the WUI to be involved in reducing the threat of wildfire to their property through proactive fire fuels mitigation measures. A number of contributors raised the point that another benefit of wildfire education is helping people manage their expectations of what the Jemez Mountains' forests will become as they recover in the aftermath of these past four decades of large and severe crown fires in this time of climate change. The Jemez Mountains' woodland landscape is now undergoing dramatic change, and it will never be the same in the lives of anyone who knew the forests as they once were. Comprehension of the ecological processes that

are already in motion will assist people in their personal recovery as they grieve, accept, and build upon their sense of loss.

Residents of the Jemez Mountains' traditional and historic communities emphasized how a fire's intensity and the varying degree to which a burn is judged to be either beneficial or destructive is a reflection of how all people are now living their lives, not just the actions of a few. In their world view, people's relationships with the Jemez Mountains and its resources entail both privileges and obligations. Their acknowledgement that access and use are not unqualified rights is accompanied by management in accord with stewardship principles that inform their traditional community-based management approaches. These contributors suggested that the careful application of strategies and tactics of land and resource use based on intimate knowledge of a locale's ecological history over generations of observation, people's interactions with the Jemez Mountains' woodlands contributed to ecological conditions favorable for producing beneficial wildfires. For this reason, respondents hold that local communities should be active and acknowledged participants in land management undertakings.

Several participants mentioned smoke as a major challenge for prescribed burning programs. They explained that sufficient burning will not be accomplished because of people's sensitivities and perceptions concerning smoke. As a collective, collaborators readily acknowledged that there is a delicate balance of health issues and concerns related to smoke sensitivities that managers must address.

The study's contributors professed the belief that public outreach is essential in helping people understand that the smell of smoke in the air was an integral part of the region's environment historically. They maintained, given the high frequency of fires that occurred throughout the Jemez Mountains before large-scale fire suppression policies were enacted, smoke would have been noticeable in the air throughout the Jemez Mountains during spring, summer and fall most years since time immemorial. While participants believe that people today need to accept the necessity of smoke in the air and the presence of low-intensity fires next to communities to maintain the health of the land, they offered suggestions based on their experiences for informing the public about smoke issues. They shared keen suggestions for proactive steps to inform smoke-sensitive persons of upcoming prescribed burns to they can take appropriate action to minimize their exposure to smoke.

In their wildfire commentaries, several contributors spoke eloquently about responsible media coverage of wild and prescribed fires. They talked about how the prominence of sensationalized accounts of wildfire's capacity for destruction in media accounts, in combination with the familiar and powerful images of "Smokey Bear" and "Bambi" that have been indelibly engraved in the nation's collective conscious, have shaped a lasting and overwhelmingly negative perception of wildfire. Participants discussed how these views and attitudes rooted in the popular psyche have been obstacles to the widespread adoption of "let burn" and prescribed fires approaches in fire fuels management that only now are slowly yielding. Several respondents offered ideas about potential methods for reconciling the seemingly contradictory images and values associated with Smoky Bear and the drip torch in a unified system of forest management.

Participants discussed what they viewed as reasonable tactics for managing access to and use of the VCNP with similar thoughtful consideration. Major topics of discussion included:

- The definition of *wilderness*;
- The need for greater and more meaningful public access and use;
- Ranching;
- Elk;
- Management models;
- The VCNP as an education and science center;
- The Preserve's legislative mandate to be economically self-sufficient; and
- The VCNP Board of Trustees (Chapters 8-12).

Respondents largely disagreed with the proposition that the Valles Caldera is a wilderness area given the intensity of logging and grazing since the late nineteenth century. Nonetheless, they stressed that the Valles Caldera possesses the potential to provide visitors with much desired experiences of solitude and interaction with nature.

There was unanimous agreement that public access for recreational activity remains much too restricted. Several individuals identified their desire to experience the VCNP's environment and wildlife in solitude and to witness the Preserve's changing beauty of the setting over the full span of the day, including the dawn, dusk, and midnight hours. Although they are

unhappy with the current degree of access, participants agreed that visitation requires careful regulation. Therefore, even though the Valles Caldera does not fulfill their expectations of a wilderness, this setting possesses such a mix tangible and intangible values that it warrants management considerations above the level that agencies, such as the USFS or the BLM, are usually able to provide in their institutional missions.

Mindful that not all activities are compatible and that some activities can be conducted only at much lower frequencies than others with adversely affecting the qualities of the Preserve that the majority of people cherish, respondents offered many suggestions about how different activities might be differentially scaled or scheduled to sustain the Preserve's many values, while fulfilling a multiple use ethic. With regard to the topic of seemingly incompatible uses, participants, including hikers, cattle operators and hunters, shared constructive and complementary ideas about how potential conflicts among different stakeholders can be mitigated. To cite one example: the fact that fishermen's and cattlemen's recommendations to segregate their activities actually reinforce one another shows that common ground among disparate user groups can exist.

Contributors readily agreed in principle that whatever access opportunities that the VCNP's decision makers ultimately determine to be acceptable within prescribed limits, there needs to be equal and transparent opportunities for all members of the public to participate, regardless of ethnicity, age, or health. They cite adherence to standards of fairness, consistency, and respectful public discourse during the development of access policies and administrative guidelines as keys to promoting and sustaining productive relationships among the Preserve's neighbors. Given their embrace of this egalitarian ethic, a number of respondents questioned what they perceive to be management policies that offer privileged access to members of Native American communities, grazing permittees, fishermen, and hunters.

Among persons interested in hiking and discovering the Preserve for themselves, people expressed a general view that some stakeholders can receive authorization to visit the Valles Caldera and experience various aspects of its landscape and the solitude that these places offer without direct supervision in ways that are currently largely unavailable to other members of the public. Among the Jemez Mountains' traditional and historic Hispanic communities, there was a heartfelt opinion that the VCNP's existing administrative policies and guidelines are

insensitive—if not openly disrespectful—of their own deeply regarded cultural-historical associations with this landscape (see also below). They decried the lack of easy access to visit places that are remembered in their families' histories.

Remarks addressing the VCNP's ranching program introduce a second dimension of concern regarding the topic of inequality in access. Many participants disagreed with the idea of cattle ranching in the Preserve despite the legislative mandate stipulating that the Preserve is to remain a working ranch. In acknowledgement of the cultural-historical importance of ranching to the VCNP's neighboring traditional and historic communities, however, critics yielded that limited ranching has a place within the Preserve. They proposed provisions that permitting procedures give local ranchers either exclusive or priority access to the grazing lease program, with the participation on cattlemen from outside the Jemez Mountains region contingent upon whether local operators fill the available animal unit quotas.[155]

One participant, who was raised in a ranching family that formerly ran cattle on public lands in the Jemez Mountains, offered justification, which extends beyond the simple citation of cultural-historical patterns, for a permitting system that gives priority to local ranchers. He suggested that the VCNP grazing program could be used to help remedy shortcomings in policies and guidelines enacted by other land management agencies, which make it nearly impossible for experienced, local cattlemen to obtain summer pasturage for small livestock herds in the Jemez Mountains. Nonetheless, another respondent offered a powerful argument against the adoption of preferential criteria based solely on residence and traditional community affiliation. Because the VCNP is public land, purchased and operated using taxpayer's dollars, he reasoned that the privilege to participate in the permitting application process needs to be open to all qualified cattle operators equally.

Participant's comments on ranching cover a wide range of other topics beyond the question of permitting procedures, and many individuals—ranchers and nonranchers alike—provided numerous practical recommendations. As noted previously, disparate stakeholders

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[155] Several participants make additional recommendations, including the requirements that ranching is made a part of the Preserve's public education programs and permitted cattle operators contribute to these initatives.

considered management strategies to reduce the potential for direct conflict between cattle operators and other user groups, especially fly-fishing enthusiasts. In framing these recommendations, ranchers and nonranchers defined a common ground in the management of riparian areas in ways that address real or perceived issues of stream bank trampling and riparian habitat pollution by densely concentrated livestock herds. These commentaries, therefore, identify management approaches that could be used to diffuse a source of standing grievances between cattle operators and environmentalists. Drawing from their hands-on experiences in running cattle in the Jemez Mountains, ranchers shared insights about strategies and activities, including allowing livestock to graze in woodland habitats, they have found to benefit the region's pastures and forests, as well as their cattle and business operations.

All contributors expressed apprehensions about the large numbers of elk that enter the VCNP, especially during the fall, to form large, dense herds. Although many of the participants profess their enjoyment seeing the Preserve's elk herds instead of cattle, they stated that they value the environmental qualities of the landscape more. To many respondents, the present-day elk herd is potentially as damaging to environment as would be a large-scale commercial cattle operation. Several respondents with hunting backgrounds offered specific recommendations to the VCNP's decision makers to take initiatives to take fuller advantage of the Preserve's annual elk hunt quotas established by the NMDGF.

Contributors provided critical assessments of various management models based on their experiences interacting with the VCNP, the SFNF, Bandelier, and the Bosque del Apache National Wildlife Preserve. Many contributors expressed the belief that NPS-style management was an appropriate alternative to the policies and practices they have experienced over their personal histories of interaction with federal land management agencies, including the VCNP.

A number of Pueblo members reported that they find the NPS administrative model, just as those of other governmental land management agencies, can be insensitive to their communities' concerns, especially their need to protect privileged cultural information. These individuals describe extant management approaches as lacking trust that their communities can fulfill the responsibilities that accompany the privilege of access to conduct their traditional cultural practices in the absence of direct administrative oversight.

Several Hispanic contributors articulated passionate critiques of management models that ignore their cultural and historical relationships with the land and then alienate—or "divorce" (Chapter 17)—their communities from a landscape that comprises a significant part of their traditional homeland. Not only is their intimate knowledge of their local environment undervalued, their exclusion from an active and meaningful role in land management processes fuels resentment, antipathy, and even fear. This estrangement and powerlessness, in turn, promotes a kind of victim complex in which some people feel as those land management agencies are purposefully acting to disrupt their ties with their homeland. As I discuss further below, members of traditional and historic Native American and Hispanic communities shared information and understandings that make clear the significance of their ties to their cultural landscapes and how the health and identities are increasingly threatened by policies of exclusion.

Noting the success of the many environmental research programs conducted at the Preserve since its purchase by the U.S., most participants shared the view that one of the VCNP's greatest and broadest public values lies in the domain of education. Many respondents would like to see the Preserve's mission recast explicitly as an education and science center. Participants variously cited that one of the Valles Caldera is well-suited for the study of high-altitude woodland habitats, the consequences of environmental change, the effectiveness of different fire fuels management techniques under contrasting conditions, and the development of sustainable ranching and logging programs. As several contributors remarked pointedly, however, it is essential that decision makers neither allow the Preserve to be studied to death nor use research as a rationale for continuing to severely restricted stakeholder access and activity. Residents of traditional and historic communities explained how access and use of the VCNP for their traditional activities is useful in the education of their youth at home.

Participants were highly critical of the VCNP's legislative mandate to be economically self-sufficient and its Board of Trustees as an institution. Their commentaries conveyed an underlying view that the requirement for self-sufficiency was unrealistic and unyielding. One respondent stated that the enabling legislation so flawed that the U.S. should have never been purchased the Valles Caldera to begin with, while another individual remarked that these shortcomings now undermine the potential for the VCNP experiment to succeed. Contributors' remarks also carried the sentiment that the Board, among other things, is inconsistent,

untrustworthy, and prone to meddling in the actions of the Preserve's professional managers. Participants with ranching and tourism interests criticized the Board's failure to support private entrepreneurial initiatives, which could contribute to the Preserve's finances, its public education mission, and management of visitors.

On subjects related to the participants' views of the management of other parts of the Jemez Mountains generally, individuals of the region's traditional and historic Native American and Hispanic communities played lead roles. Major topics of discussion included:

- Uses of the Jemez Mountains;
- Traditional values, attitudes and perceptions of this landscape;
- Community-based management traditions,
- Wildfire in rural communities' sustaining areas;
- Views of regional management planning and administration; and
- Witnessed environmental changes (Chapter 13-18).

Although many specific observations and insights presented in these chapters are interesting and useful, respondents' commentaries are even more valuable for providing contextualized cultural perspectives, which exemplify how people construct their landscapes to make sense of the places in which they live and understand their place in this world. Because they embody ideas and actions that are foreign to most Anglo-Americans, the commentaries shared by traditional and historic Native American and Hispanic community members provide a contrasting frame of reference for identifying and comprehending cultural processes that many of us take for granted in our daily lives. In providing information and insight that facilitates comparison of the familiar and the unfamiliar, these interview data provide the basis for identifying "the pattern which connects" (Bateson 1978), not just the patterns of dissimilarity. With regard to the former, the essential properties that landscapes are (1) what all people inherently do as cultural beings, and (2) an integral part of their history, who they are today, and who they will become in the future are made visible. The insights that Native American and Hispanic community members have shared, in turn, provides a framework for building comprehension of the meaningfulness and significance of the relationships that people construct and seek to maintain with their landscapes in their day-to-day lives.

All contributors, regardless of their backgrounds, interests and community affiliations, asked for respectful consideration by land managers of the needs of people to have meaningful access to the Jemez Mountains in ways that not only sustain, but also allow them to build upon, their existing relationships with this landscape in the future. Land management policies and guidelines tend to focus primarily on instrumental values, which may be readily assigned economic worth based either on their physical characteristics or activities associated with their tangible characteristics (Procter 1995). Nonetheless, the commentaries shared by the study's collaborators document a universal pattern in which people assign intrinsic values to landscape phenomena that not only can defy quantification, they can challenge clear and meaningful engagement under among persons who embody different world views.

With respect to patterns of dissimilarity, each of the study participants relies on their contrasting cognized experience of the world to include different parts of the Jemez Mountains in their constructions of *home* (Chapter 2). Specifically, every person draws upon their common sense understandings of the relationship between the physical center of their respective communities and the Jemez Mountains at the periphery to define their rightful orientation (Cajete 1993-1994, 1994) within the world. These constructions include how individuals comprehend who they are (after Cajete 1994:49), as informed by their objective conditions ("needs-orientations") and cherished values ("values-orientations") (after Kluckhohn 1951; Kluckhohn and Strodtbeck 1961) (see Chapter 2).

Challenges of Landscape Management: Recognition and Acceptance of a Multiplicity of Truths

For the people, who have inherited traditions of intimate experience with this landscape by virtue of their being members of traditional and historic communities that have depended on the land and its resources for countless generations for their material and spiritual livelihoods, the health of their communities and their identities are at stake. For the individuals who have acquired an intimacy of experience with the Jemez Mountains through their respective professions, avocations, and/or residence over the course their lives, a significant sense of their personal identity is similarly in the balance. Even for the participants who have come to known the Jemez Mountains region only within the past few years, their commentaries reveal the

implicit hope that they will be able to construct new and comprehensive relationships with this landscape by having greater opportunities for access and experience in the VCNP.

Within these broadly cast hopes and aspirations, the people who have contributed to this study often differ—sometimes in striking fashion—in their perceptions, attitudes, and values, which motivate and inform their opinions about the appropriate scope and content of land and resource management. This diversity, including sometimes seemingly irreconcilable differences, is to be expected: the Jemez Mountains, after all, are a richly textured and multilayered cultural landscape.

The cultural contexts shared in the project interviews make clear why open, respectful, trustful, and meaningful public engagement is obligatory for responsible and informed public land management. Landscape constructions, through which people physically or metaphysically identify and interact with various natural and cultural resources, provide communities with particular senses of place and time.

Each person perceives his or her landscape in the qualitative and quantitative terms of the community (or communities) of which they are member. These terms may be fundamentally different from those used by other communities. As discussed in Chapter 2, meaning is culturally defined and culture is arbitrary; each community perceives and understands its world through their unique heritage, tradition, and history (Anschuetz et al. 2001; Evans et al. 2001). Therefore, the views, attitudes, and perceptions of one cultural community should neither be used as a benchmark for judging the values held by another in land management processes nor as a model in which "one size fits all."

The incorporation of the principle of cultural relativism into the development or and application of land management policies and guidelines poses three significant challenges. The first complication is that communities might selectively create and sustain significant relationships with landscape features whose form, function, and meaning are intelligible only to members who possess certain preferential cultural knowledge. The fact that culturally significant meanings might be assigned to places within a landscape although material traces of human use, or the physical morphology of these settings defies quantitative description, represents an additional challenge to effective landscape dialogue.

A second obstacle to landscape management discussions is that each community recognizes particular traditional landscape relationships as inviolate when identifying what they understand to be the important aspects of their community's cultural heritage (see Anschuetz et al. 2001; Evans et al. 2001). Through their landscape constructions, each group creates and sustains a unique sense of identity, with some groups more dependent on an emotion bond of with particular settings than others.

A third challenge to cross-cultural land management warrants consideration. As the cultural geographer David Lowenthal observes in his essay, *Not Every Prospect Pleases*, "What makes one landscape appear harmonious, another incongruous, is the entire experience of the viewer" (1971:235). Physical land alterations favored by one community might be viewed as desecration by members of another community whose relationships with the same environmental setting are qualitatively very different. One community's material benefit can result in a significant cultural loss and alienation for another.

After identifying the preceding three issues, a fundamental point warrants reiteration. Environments, such as the Valles Caldera and the whole of the Jemez Mountains, might represent a multitude of contrasting landscapes, whose collective cultural meanings, values, and relationships potentially engender layers of emotionally charged cultural conflict (after Evans et al. 2001).

Confronted with the frustration that "not every prospect pleases," people invariably want answers about why such formidable obstacles exist and how people from different cultural communities might engage in respectful and meaningful dialogue to resolve issues of landscape discord. Social scientists can talk endlessly about fundamental differences in timeless traditions and cultural-historical experiences. Oftentimes, however, these explanations are cast in language that laypersons can find difficult to comprehend. In his thoughtful consideration of Pueblo communities' perceptions and comprehension of their cosmos, George Johnson, a science writer for the *New York Times*, offers an accessible explanation of such cultural divergence:

> Like the keepers of the laws of physics, the...[Pueblos'] ancestors were seeking their own compressions, a system to distill the essence of their variegated, capricious, often dangerous world. And so, in their attempt to

> explain the strange patterns of the familiar, they took what they knew and arranged it into a harmonious whole, an inner religious world that exists, though slightly faded, to this day. Having no familiarity with concepts like mass and energy, they began with their own fundamentals: the six directions, the colors, the seasons, the creatures that inhabited their land. [Johnson 1995:185]
>
> Dig deep enough through the layers of the mind and surely you will reach rock bottom, an impenetrable floor: the architecture of the brain as it was molded by evolution to find patterns, even if they are not always there. We all find ourselves in a world of randomness, where some reasons are wet while others are dry, where bad things happen to good people and enemies prosper. Surely the world isn't meant to be this way. We all share a belief in symmetries, and finding ourselves in a world where the symmetries have broken, we imagine a time before the fall from perfection, whether we call it Eden, the underworld, or the big bang. [Johnson 1996:198]

Based on fundamental premises of how the world works (see Johnson 1995), all communities create and trace logically coherent histories that answer the same general questions—"Where do we come from?" and "Why did we come here?"—for their current generations to use in the present and to draw from as they prepare for the future. Landscapes, which variously represent the historical ecology (after Jackson 1980) or the spiritual ecology (after Cajete 1993-1994, 1994, 1999) of people's interactions with their natural, social, and cultural environments over time, figure prominently in communities' cultural-historical constructions (Chapter 2).

As the study participant's remarks illustrate, one group's landscape construction seldom fulfills the material or ideational expectations held by another whose system of common sense knowledge is fundamentally different. As examined in Chapter 2, common sense knowledge refers to, and cognitively structures the consideration of, perceivable facts (after Atran 1990:1–4). These facts, which are deduced from culturally-conditioned perceptions, values, attitudes and beliefs, inform each person's understanding of the world, including nature, self, and society (Geertz 1973 [1957]). As such, the Jemez Mountains cultural landscape comprises not only

multiple landscape constructions, it is built from multiple landscape truths (after Evans et al. 2001:55).

Rina Swentzell, a widely recognized scholar of the Pueblo of Santa Clara, offers an illuminating illustration of how multiple systems of cultural truth exist in the world:

> Truth is *not* absolute in the Pueblo world. There never is one truth. The world, the cosmos, the whole is multifaceted and expresses many truths at once. Simultaneous levels of existence...are a part of daily reality and understanding. Wholes (the cosmos, the community) are what must be experienced, because parts (which can be wholes in their own contexts) give only a partial sense of understanding. There is, then, no set truth, because contexts always change, given any particular stance or reality. Because wholes are ever changing, the effort necessary to perceive wholes is unending; therefore, absolute truth is never attained.
>
> Western...[scientists], on the other hand, focus on the parts of any whole and work to put the details together. They operate with the assumption that facts, if appropriately collected and fastidiously recorded will uncover the truth. Absolute truth is, for the most part, taken for granted. It is there to be uncovered. The search for the particular truth reinforces the...[scientists'], peculiar level of comfort about the world and satisfies their rational, intellectual needs. The process of...[scientific], work is described in the most logical and rational manner possible. Myths and stories...are without scientific relevance and are not to be taken seriously, because there cannot be...simultaneous truths. Besides, only tangible facts, or hard evidence, will suffice as scientific proof. [1991:178]

As I note previously, the members of a community expresses their landscape constructions in their own terms, which cannot be understood fully within another culture group's perspective. Johnson's study of how different cultural communities construct their worldviews again is useful for summarizing what invariably happens when Anglo-American communities attempt to explain another group's worldview:

> Confronted with an alien system, all we can do is lay our own conceptual grid over it and explain it in our own terms—build models of their models. But there will always be a gap between our theories and the phenomena we are trying to formalize. Even if so much of the...[Pueblo] religion were not secret, there would still be no way to think with the brain of a... [Pueblo], to erase our own network of beliefs and immerse ourselves in another. In the end, two different world views can be as immiscible as oil and water: their structure holds them apart. [Johnson 1995:198]

Contrasting landscape views inherently are based on different mixes of subjective and objective criteria and unique cultural-historical experiences and memories. In the sense that landscapes are inherently cultural products sanctified by traditions of common sense belief, landscape constructions based on subjective criteria do not fulfill the expectations of understanding based on objective criteria (and vice versa). Thus, individuals of one community might be tempted to judge one construct as more truthful or more valid than accounts offered by others when considering a cross-cultural array of landscape interpretations. Imbued with meaning for use by its people to sustain their cultural identity, one community's storied landscapes and cultural heritage places are not reducible to the status of folk art or commodities intended for quaint recreational entertainment.

Incompatible landscape meanings and cultural values, when coupled with members of one community judging landscape views of another cultural group in terms of their own worldview and failing to find behaviors and meanings that fulfill their particular common sense criteria, invariably leads to discord. The results can include alienation, estrangement, resentment, antipathy, fear, and possibly even victimhood.

The bottom line is that one community, including that consisting of managers of public lands regardless of their institutional affiliation, cannot specify the reality of another community's landscape. The issue of with whom the authority and knowledge to identify and describe the significance of meaningful places across geographic space, therefore, is relevant (after Evans et al. 2001:54). Similarly, one group cannot justly redefine another people's traditional relationships with their landscapes through the adoption of policies and regulations that adversely affect access to, use of, or physical modification of an environment in its own

terms. Criticism of such actions that such administrative actions are culturally insensitive or disrespectful cannot be simply dismissed as immaterial or without basis.

Broadly dismissive attitudes by one community toward another may arise through cultural ignorance or out of ethnocentricism, whereby people judge their community's "familiar explanations, opinions, and customs" as the only "true, right, proper, and moral" way (Kottak 1987:209).

Through inability, inattention, or resistance to hear what people of different cultural backgrounds and cultural-historical experiences are willing and able to share about their landscapes, meaningful engagement cannot occur. Consultations can become mechanical in procedure, and although they might fulfill the formal terms of procedural statutory requirements, they can fail to achieve their intended purpose. The "divorce" is finalized; feelings of estrangement, bitterness, and loss can be reinforced.

A second set of obstacles that traditional and historical community stakeholders might confront during failed consultations are stereotypic images that ignore contemporary circumstances. This issue includes the perception held by many traditional and historical communities that they first have to defend themselves from prepackaged expectations, both negative and positive, of "images" held widely among the Anglo-American public concerning authenticity (see King 1997; see also below).

Community members may feel that they are prejudged on the basis on their cultural affiliation, residence or formal academic status, such that the information and they share in consultations can easily be dismissed as unsophisticated or irrelevant. Decision makers, in turn, might feel justified in maintaining or reinforcing the status quo by assigning their professional or institutional values when developing management protocols and implementing particular actions. Alternatively, communities members might feel that if they fail to fulfill the material and behavioral expectations of stereotypic images that managers may have of them during consultations, then they face the threat that their points of view can be dismissed as inauthentic (after Biolsi 1997). Under such circumstances, decision makers might feel justified in assuming the authority role in determining what relevant values are variously enhanced or threatened by a proposed management action.

The broad failure of the present study to recruit the participation of more Native American and Hispanic members of the Jemez Mountains' traditional and historic communities points to two additional significant problems. Tribes, which possess sovereign status under federal legislation, might be more agreeable to participate in land management consultations if they are engaged directly through government-to-government protocols instead of being asked to work with agents working under contract for federal (or state or local government) agencies. Residents of traditional rural Hispanic communities might be more willing to participate in proceedings, such as this study, that invite participants to share their forthright opinions if the fear that may accompanies their estrangement from public lands can be mitigated. In the present instance, a private contractor had neither the institutional status nor authority to assure potential candidates that their comments could not—and would not—be used against them in future interactions.

A final impediment is that the land management initiatives that involve cultural resources, including traditional cultural properties (TCPs),[156] important to traditional and historical communities often lack an appropriate historical perspective. The creation of national parks, monuments, preserves and wilderness areas, and their concomitant management, for example, are enterprises primarily undertaken by and for the dominant national Anglo-American community. Within this cultural milieu, management approaches tend to be cast in terms and through actions that, in many ways, still exhibit aspects of the antihistorical bias that drew much criticism during the 1970s and 1980s in anthropology (e.g., Trigger 1978, 1989:312–319; Wolf 1982; see also Knapp 1996:141). Moreover, they primarily represent an exercise in collective memory (Casey 2004) that memorializes a particular place within a landscape in terms of a

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[156] According to Patricia L. Parker and Thomas F. King, who authored the NPS' *Guidelines for Evaluating and Documenting Traditional Cultural Properties,*

> A traditional cultural property...can be defined generally as one that is eligible for inclusion in the National Register [of Historic Places] because of its association with cultural practices or beliefs of a living community that (a) are rooted in that community's history and (b) are important in maintaining the continuing cultural identity of the community. [1998:1]

specific and static understanding of the past divorced from the present, a landscape of memory (Küchler1993) (see Chapter 2). In comparison, participatory management, traditional and historical community stakeholders, who are active and respected participants in management processes, can introduce historical perspectives that view the past as a referent for the present and landscapes as memory itself (Küchler1993). Additionally, participatory management constitutes a celebration of public memory (Casey 2004) within the landscape (Chapter 2).

Defining a Matrix of Stakeholder Community Relationships

It is well beyond the scope of the present study to conduct meaningful landscape dialogue among such a diverse assemblage of Anglo-American, Native American, and Hispanic participants who maintain significant—albeit often conflicting—associations with the VCNP and the surrounding Jemez Mountains. It is possible, however, to provide a preliminary outline, which identifies several critical key variables in the complex matrix that underlies land management consultations that incorporate a landscape perspective (adapted from Anschuetz 2002a:9.4-9.9).

For the purposes of organizing this discussion, it is reasonable to recognize four principal continuums along which stakeholders variously situate themselves depending on their cultural affiliations. The variables used in this exercise are not mutually exclusive, but they serve to define a continuum of physical and metaphysical interaction with landscapes. Because they characteristically situate themselves variously along these continuums, members of different cultural communities possess qualitatively dissimilar mixes of landscape associations and behaviors defined by polar extremes. Importantly, the poles are stereotypic extremes; it is inappropriate suggest that groups subscribe fully with any of these poles. The classification of people by these stereotypes obscures an understanding of the elements of the complex matrix of associations and behaviors that are focus of our interest. Worse, by excluding areas of common interest within the continuums, stereotyping creates false dichotomies that can cast members of different community groups in seemingly irresolvable opposition with one another (after Jill Cowley, Historical Landscape Architect, Intermountain Support Office, National Park Service, personal communication 1999).

The continuums are (1) objective and subjective knowledge, (2) urban and rural community orientation, (3) individualistic and communal relationships with the landscape, and (4) active and passive organization of day-to-day physical relationships with the landscape. Three additional variables are also relevant: (1) spatial-temporal scale, (2) dimensions of community interaction, and (3) inevitability of change.

A Continuum of Objective and Subjective Knowledge

The Anglo-American community tends to understand their landscapes in general—and the VCNP and the Jemez Mountains in particular—through systems that favor objective over subjective knowledge (Anschuetz 2002b; Cushman 1993; Parker 1993). Consequently, Anglo-Americans tend to emphasize quantifiable things and products without comparatively little appreciation of their intangible connections. They often view the environment as a collection of commodifiable natural and cultural resources. In experiencing their landscapes, Anglo-Americans tend to project themselves onto their environments for a desired end, and in doing so, generally consider themselves as standing outside the historical-ecological process (see below). To view history, Anglo-Americans are generally inclined to construct idealized historic environments with which they can interact, more or less as individuals, as a kind of "point of contact between the physical and spiritual worlds" (Roberts 1997:6; Anschuetz 2002b). In this way, they tend to experience the past through explanations they impose on the landscape.

On the other hand, Native American community members tend to emphasize subjective over objective knowledge in their landscape of the VCNP and the Jemez Mountains, whereby they highlight ideas of connectedness and process (see Cushman [1993], Downer and Roberts [1993], Ferguson et al. [1993] and Parker [1993] for further discussion). In these constructs, they conceptualize themselves as an integral part of the historical-ecological process. In traditional and historic Native American and Hispanic communities alike, this projection of the human sense of soul and the archetypes contained therein into the landscape process can be so profound that it creates a sense of ensoulment (Cajete 1994:83; see also Chapter 2). People tend to conceptualize the past as intrinsic to the landscape and to themselves, both as individuals and community members. History is not something to be experienced selectively, but something to be lived in everyday life.

Hispanic participants manifest a particularly wide range of relationships with the Jemez Mountains landscape. Toward the pole of the continuum that relies most heavily on objective knowledge, individuals who make their living through ranching approach their interactions with the Jemez Mountains natural environment ways that resemble the general Anglo-American community pattern. Toward the more subjective pole of this continuum, participants, who interact with their family in their historical home environs and procures resource for use in traditional activities, procurement traditional, interrelate metaphysically with their landscape in ways that include the ideas of spiritual ecology and ensoulment.

These differences in emphasis between objective and subjective knowledge pose a significant challenge to cross-cultural landscape dialogue not only for how it organizes the content of cultural perception, but also for how it structures the substance of speech itself. Simon Ortiz, a renowned poet from the Pueblo of Acoma, offers a compelling observation of how language differences can form yet another formidable obstacle to effective communication of important ideas:

> when I learned English well and began to use it fluently, at least technically and intellectually, I found myself "objectifying" my native language, that is, in translation. And it felt awkward, almost like I was doing something I was forbidden but doing it anyway. I've posed myself the frequent question: Is it possible to translate from the Acoma language to another? Yes, I've insisted, but I'm not sure I am convinced of it or how complete the translation is. Since we're all human with the same human feelings and responses to feelings, we understand and share hurt, love, anger, joy, sadness, elation, a gamut of emotions. However, human languages are different from each other, and unique, and we have different and unique languages; it is not easy to translate from one language to another though we egotistically believe and *think* we can. And that is when I found myself objectifying my Acoma language and at emotional odds with myself. [1992:6, emphasis added]

Cecil King (1997), an Algonquin-speaking Odawa, explicates this problem in his forceful essay, *Here Come the Anthros*. Although King's essay addressed the issue of relationships between Native American and anthropologists specifically, the following excerpt is relevant to

the cultural resource management process in that it can—and should be--a consumer of anthropological constructs.

> The language that anthropologists use to explain us traps us in linguistic cages because we must exchange our ways through alien constructs and theoretical frameworks. Our *ezhibemahdizowin* [lives] must be described as material culture, economics, politics, or religion. We must segment, fragment, fracture, pigeonhole that which we hold sacred...
>
> We have to describe our essence, *d'ochichaugwunan*, to fit academic conceptual packages, and we have become prisoners of what academics have done to our words to verify their words. We want to be given the time, money, luxury, and security of academic credibility to define our own constructs from within our own languages and our own worlds and in our own time.
>
> ...How can we learn how our language is structured, how our world of languages was created, if we must parse, analyze, and chop them up to fit the grammar of other languages? How can we define who we are, what we see, and what we think when the public, politicians, and policy makers have accepted the prepackaged images of who we are, as created by anthropologists?
>
> ...Having to define ourselves from the start with inappropriate English terms is not sufficient for our understanding. It is confining, and it is wrong. It seems that we must first defend ourselves against scholarly categories. We must find a way to break out of these cages. [King 1997:116–117, italics in original]

Ortiz's (1992) and King's (1997) commentaries deserve careful consideration when cultural resources planners, managers, and consultants propose landscape consultations with community groups for whom English is not their first language and whose worldviews, as conceptualized and expressed through languages other than English, are different from that of the dominant Anglo-American community. King states, "We want to be given the time, money,

luxury, and security of academic credibility to define our own constructs from within our own languages and our own worlds and in our own time" (1997:116). He adds,

> Creative approaches must be discussed and debated by aboriginal communities, academic institutions, and individual researchers to reach a working relationship that neither constricts the advancement of knowledge nor denigrates the aboriginal communities' legitimate authority over the integrity of their own intellectual traditions. [King 1997:118]

In calling for dialogue among peoples of culturally diverse communities whose languages and ways of knowing fundamentally are different, however, King asserts the need for respect of difference. King makes a statement concerning expectations by managers that the cultural resource management process should document and decipher privileged knowledge:

> The dictates of Western science and the standards of behavior enshrined by associations of researchers dedicated to the advancement of social science may or may not be compatible with the code of ethics of our aboriginal communities. [King 1997:118]

A Continuum of Urban and Rural Community Orientation

Traditional and historic rural community members' experiences provide contexts for the development of an emotionally-imbued bond with the varying parts of the Jemez Mountains, sometimes including the Valles Caldera. In comparison, urban-oriented community residents, whose interactions with the land and its resources are not sustained, intensive or subsistence-based, tend to possess senses of time and place that are informed by romanticized views of nature rather than by direct historical-ecological experience (Anschuetz 2002b; see also Chapter 2). For urban dwellers (regardless of ethnicity), the idea of landscape carries connotations of rawness, art, and the naturalness of place before the time of civilization.

A Continuum of Individualistic and Communal Landscape Relationships

In general, communities, which base their relationship with their landscape in terms of subjective knowledge, tend to interact with the VCNP and the Jemez Mountains that possess

close associations with the supernatural powers in the cosmos for the benefit of the living community as a whole. In addition, although not necessarily absolute, interaction with such places is based on an individual's experience and participation in the community's cultural traditions. As Cajete observes for Native American communities,

> initiation rites occurred at graduated stages of growth and maturation...Ceremony was a life-long introduction to sacred and environmental knowledge, graduated so individuals were presented new levels of knowledge when they were physically, psychologically, and socially ready to learn them. [1994:34]

In this sense, some intensely private, infrequent, and highly structured Native American and, possibly, Hispanic traditional cultural activities in the Jemez Mountains represent rituals that reaffirm the sanctity of the place and of a community's relationship with that place within the realm of its cosmos. When involving physical visitation, such activity can constitute the sacrament of pilgrimage. Pilgrimage ritual by a few individuals for the benefit of all the people within their community, such as visitations that some Pueblo communities make to Cerro Redondo in the Valles Caldera (Anschuetz 2007c; also Chapter 14), depends upon a precisely prescribed liturgical order to ensure appropriate ritual performance. For land-based, traditional and historic communities, sanctified pilgrimage often is necessary for the people to reaffirm and sustain communion with the special qualities of the landscape as a whole (after Rappaport 1999).

This sanctified process of interaction, which is informed by subjective cultural knowledge, is an essential physical component of a community's religious practice. The managerial practice of imposing an objective materialist reference on this process that focuses on a particular location, however, risks discounting a community's cognized reality of a greater spiritual essence. Through pilgrimage by certain ceremonialists on behalf of the community, the group reaffirms its ascription to tradition to sustain its senses of place and time. Moreover, the return of pilgrims from sanctified places on the conceptual periphery of a community's natural world represents a reenactment and verification of the group's traditional migration accounts.

Among urban residents (regardless of ethnicity), most people's understandings and relationships with the VCNP and the Jemez Mountains tend to be highly individualistic

(Anschuetz 2002b). In total, these relationships, person-by-person, help foster a coherent sense of national identity typically based on the celebration of collective memories. They also provide a mechanism through which the rootless present can incorporate the past into itself (after Jackson 1980; Roberts 1997). On the other hand, while land-based communities use pilgrimage to sustain their reciprocal relationships with a supernatural realm for the benefit of the living community as a whole, this idea is largely nonexistent among people living in urban centers (after Roberts 1997:7–9).[157]

A Continuum of Active and Passive Structure in Landscape Relationships

In their association of landscape with open space, urban community residents ((regardless of ethnicity) often place a high emphasis on the development of amenities, such as visitor centers, trails, bike paths, and campgrounds, in empty areas, thereby transforming these landscapes into parklands (Anschuetz 2002b). Although they can overlap in terms of physical space, *landscape* and *parkland* (i.e., recreational tracts with formally designed amenities) are not synonymous concepts; *open land* and *parkland* are similarly different ideas.

Open space and parkland specify, qualitatively and quantitatively, very different kinds of relationships between people and their landscapes. Open space favors passive, vernacular interrelationships between community members and the land. It is neither physically constructed nor dependent on large numbers of visitors to justify its existence objectively. Open space sometimes is a requisite for sustaining the subjective elements of a community's landscape constructions and metaphysical interrelationships with particular places within the landscape.

Ethnographic study elsewhere (e.g., Anschuetz 2002a) has shown that traditional Native American community members need access to open space to sustain the sanctity of their landscape constructions and the physical context for the proper performance of rituals. Because the Jemez Mountains overall represent a healing place (Anschuetz 2007c), Indian communities believe that the whole must be significantly maintained to sustain the relationships and

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[157] With regard to commentaries by Anglo-American participants in the present study about their needs for solitude, feeding the soul, and spiritual experiences, it is clear that aspects of their visits to the VCNP and the Jemez Mountains represent informal ritual pilgrimages.

connectedness among its many individual parts. In the Native American worldview, fragmentation of the physical landscape threatens the indigenous communities' underlying sacred liturgical orders.

On the one hand, urban dwellers (regardless of ethnicity) often seem to consider open space as a kind of commons, a concept extremely familiar to traditional rural communities (Anschuetz 2002b). On the other hand, transformation of open space into parkland, which is by definition a designed landscape, exists for active land use and depends on demonstrated visitation to justify its existence. Other than providing visitors with avenues to experience the past through a constructed historical environment (Jackson 1980; see also Chapter 2) of selected objects and formal explanation, subjective elements of landscape relationship are de-emphasized. Consequently, urban community residents tend to have qualitatively and quantitatively higher thresholds for physical landscape modifications permissible before alienation and a sense of loss is realized.

Spatial-Temporal Scale

Five spatial-temporal community scales further structure the matrix of stakeholder community interactions with the VCNP and the Jemez Mountains. These scales are: (1) local traditional and historic rural communities; (2) local metropolitan/urban communities; (3) regional communities; (4) the national community; and (5) the international community.

As the commentaries shared by traditional and historic community members in this study have shown, people who possess age-old cultural-historical associations with the VCNP and the Jemez Mountains characteristically have intimate familiarity and maintain strong emotional ties with the land and its resources. Consequently, these communities form a primary spatial-temporal unit.

Los Alamos, Santa Fe, and Albuquerque form the second spatial-temporal tier of stakeholder relationships with the VCNP and the Jemez Mountains. Some residents of these urban communities may have important historical associations with this landscape, although it is reasonably safe to suggest that most do not.

Rather than interacting with the land directly for their subsistence, the region's urban residents primarily look to the VCNP and the Jemez Mountains for recreation. Because their interactions with this landscape usually do not include land-based economic activities, it is common for a large proportions of metropolitan community residents to follow a national pattern of interpreting the Jemez Mountains region in general and the VCNP in particular through romanticized views of nature (Anschuetz 2002b; see also Chapter 2). Rather than looking to the landscape for sustaining a sense of community identity, individualized senses of renewal are characterized by people's relatively limited experiences in recreational contexts.

It is likely that regional, national, and international communities possess progressively abstract, stereotypic understandings of the VCNP and the Jemez Mountains environments and their varied assemblage of natural and cultural resources (after Anschuetz 2002b). Distance, of course, plays an essential role in structuring and organizing how people living outside north-central New Mexico perceive and experience this mountainous landscape. Generally, individuals living outside the region experience the Southwest either directly as short-term, possibly episodic, amenity migrants or indirectly through various media representations.

Truly viewed from afar, the VCNP and the Jemez Mountains landscapes are characteristically portrayed as an ecosystem without people, even though various urban and rural community groups maintain significant associations with the place. Moreover, regional and national policies that redefine people's interactions with the VCNP and the Jemez Mountains characteristically emphasize particular aspects of people's behavior to achieve certain material ends that can be documented quantitatively and/or assigned economic value. Decision-makers, however, when they design policies, do not necessarily consider the accumulative effect of their management policies on the ability of the area's traditional and historic communities to sustain their culture heritage traditions.

People who visit the VCNP and the Jemez Mountains from abroad truly are amenity migrants. During their travels, they cherish the opportunity to experience the places made possible by the commitment of this country's citizenry to protect and sustain their national monument and park landscapes.

Dimensions of Community Interaction

As the preceding discussion implies, multiple dimensions exist in the way communities, regardless of their cultural identity, rural or urban organization, and spatial-temporal scale, interact with their landscapes. In fact, there are four principal—and overlapping—dimensions: (1) economic, (2) social, (3) political, and (4) cultural. Given their interrelatedness, all four dimensions factor into landscape dialogue.

Decision-makers often recognize, either explicitly or implicitly, objective economic, social, and political dimensions in developing environmental management policies and legislation. The cultural dimension, which encompasses tremendous diversity and is much more subjective in conceptualization, seldom is easily recognized, let alone accepted or understood. Because landscapes represent historical-ecological systems in which humans are an integral part, the cultural dimension has four essential aspects: (1) history/time/memory, (2) place-making, (3) tradition, and (4) ethnicity. Given the particular characteristics of local historical-ecological sequences, the ad hoc generalization of the cultural dimension is neither possible nor appropriate. The uniqueness of cultural-historical narratives calls for land managers to implement existing policies and tools for incorporating meaningful traditional and historic community participation on a broader scale.

Inevitability of Change

As a simple empirical generalization drawn from natural and social science studies, change characterizes all historical-ecological systems in which humans are a part (see also Chapter 2). The tremendous growth of the Santa Fe, Los Alamos, and Albuquerque metropolitan area in recent decades, coupled with potent forces of climate change globally, ensures that environmental change on and around the Jemez Mountains will continue to accelerate in the future.

Change is an essential part of living and of landscape definition. In the face of development pressure, there are calls for the preservation of endangered natural and cultural resources within their landscapes. Strict application of narrowly defined and static "preservation" approaches in land management to suppress change beyond the limits of some idealized archetype environmental model, however, can become the death of history (Jackson

1980). For members of the region's traditional and historic communities, preservation initiatives that effectively cut the people off from their living history (qua a landscape as memory (Küchler 1993) is the essence of the problem with pickles (Chapter 2). Land-use planning in the face of development, to be successful, needs to consider how to *sustain* extant landscape traditions within an ongoing historical process.

The challenge to sustain extant landscape traditions within an ongoing historical process is not a sterile intellectual exercise. We all can learn from the past to prepare for a future of ever-greater material demands on the land and its resources in the face of growing population needs. We can also decide what aspects of the Jemez Mountains region's diverse cultural traditions we intend to pass on to subsequent generations. These decisions must consider many challenging economic, social, and political concerns. This undertaking will not be easy. Communities, ranging in scale from the local to the national level, collectively will need to consider the many-layered, sometimes contradictory values, of the VCNP and Jemez Mountains' landscapes.

A Few Concluding Thoughts about Landscape Management

Three points warrant reiteration. First, cultural landscape approaches provide remarkable insights into the ideational systems and lifeways of the people responsible for them. Second, as a kind of historical text, landscapes provide compelling documentation of who we all are and how we became who we are today. Third, landscapes are evolving, dynamic features with each culture and each generation adding another layer of meaning, leaving another story to be remembered, celebrated, and learned from.

Across the nation, many different publics embrace the spirit of the ideas of cultural heritage sustainability and diversity. New Mexico is no exception. As Tom Joles, a host of the locally produced *Cavalcade of Enchantment* television series notes in each program's introduction,

> and truly New Mexico itself is a treasure...Our history, our cultures, our traditions, our attitudes, and our feelings all meld into this land, and that land is indeed enchanted, casting a spell over all. The environment in which we live, the history, the traditions, the land which we revere, and the future for

> which we prepare, all are key elements of the Enchantment we call New Mexico. [Phelps Dodge Corporation 1993:n.p.]

The VCNP and the Jemez Mountains landscapes possess many different levels of cultural meaning and value for a multiplicity of culturally diverse communities. For members of the region's traditional and historic communities, management decisions that broadly limit people's access and use of the landscape possess the potential for harm that can be more hurtful over the long term than even losses that they suffer by land altering activities within culturally sensitive settings within their landscapes. The potential for dissatisfaction under these circumstances is more than the denial of access that promotes and sustains individual memories and values. Restrictions that impede the conduct of traditional practices can result in the denigration of social, collective, and public memories maintained within communities that they need for maintaining their traditions and senses of identity. Fundamental ideas about landscape as home and *querencia* may be eroded, placing the health of their people at risk. Loss of access and use can result in alienation, estrangement, resentment, antipathy, and fear. As losses accumulate, the compounding hurt may further foster psychologies of victimhood.

The imposition of increasingly severe restrictions on access and use of the Valles Caldera and other parts similarly possess the potential for harmful consequences even among some of the region's metropolitan residents. Over the short term, managers may feel that the adoption and implementation of policies and guidelines that severely restrict access and use of certain areas is necessary to preserve what they perceive to be a locality's wilderness, wild, nature, and natural values. While their actions may be embraced by most urban residents who generally share the decision makers' world views and are content with the knowledge, which is largely founded on collective memory, that wilderness, as "a symbol of the orderly processes of nature" (Tuan 1974:112), and wild nature have been preserved and can be viewed from afar. For urban residents who are more active than passive, however, there might exist deeply personals need to directly experience the solitude and interaction with wilder places in nature to feed their souls and nourish a sense of well-being. While their need for access and activities in the VCNP and the Jemez Mountains might be initially characterized as an individualistic pursuit that creates individual memories, such personal experiences can become broader social and collective memories over time. They may even contribute to an anthology of collective memories

significant to the national psyche, should the idea that the darkness and chaos of true wilderness existing only in the cities (Tuan 1974:112) rise to greater prominence as a state of the mind in the future.

The Jemez Mountains, with its Valles Caldera encompassed by some of north-central New Mexico's highest peaks, is physiographically and metaphorically a cultural acropolis. This landscape is a temple in the sense that it is imbued with natural mysteries and stands as an icon of culturally diverse peoples' "most comprehensive ideas of order" (Geertz 1973:127 [1957]) about the world and their rightful orientation (Cajete 1993-1994, 1999) within it.

The geographer Norman Crowe recognizes the importance of an acropolis as a cultural landscape:

> Especially in our own time we need an equivalent to the embodied memory of an acropolis to remind us that the man-made world is a thing of our own creation and its flaws and triumphs are directly accountable to human agency alone. [Crowe 1997:237]

The Jemez Mountains acropolis, though on the edge of all of our physical residences, represents a center of our landscapes, which are our homes. This acropolis stands as a focal point for reflecting upon our pasts, presents, and futures. In providing us with grounded cultural-historical reference, which can back to the beginning of time itself, the Jemez Mountains provide us with essential orientation with which "the human spirit understands itself" (Cajete 1994:49).

Lastly, adoption of landscape perspectives in land management enterprises requires subscription to a perspective that truly recognizes, accepts, and values cultural diversity as something that contributes economically and socially, as well as culturally, to the qualities that makes New Mexico *The Land of Enchantment*.

If communities, locally, regionally, and nationally, urban and rural alike, can broaden their perspectives and consider their reciprocal obligations to one another as members of a society larger than themselves, we collectively might be able to view the Jemez Mountains from afar and heed Cajete's call to *"look to the mountain"* and to learn to respect *"that place that the people talk about!"* (1993–1994:9).

REFERENCES CITED

Adler, Thomas P.
1974 Pinter's Night: A Stroll Down Memory Lane. Modern Drama 17:461-465.

Allen, Craig D.
1989 Changes in the Landscape of the Jemez Mountains, New Mexico. Ph.D. dissertation, Department of Wildland resource Science, University of California at Berkeley.

2002 Lots of Lightning and Plenty of People: An Ecological History of Fire in the Upland Southwest. *In* Fire, Native Peoples, and the Natural Landscape. Thomas R. Vale, ed. Pp. 143-194. Washington, DC: Island Press.

2004 Ecological Patterns and Environmental Change in the Bandelier Landscape. *In* Village Formation on the Pajarito Plateau, New Mexico: Archaeology of Bandelier National Monument. Timothy A. Kohler, ed. Pp. 19-68. Albuquerque: University of New Mexico Press.

2007 Interactions across Spatial Scales among Forest Dieback, Fire, and Erosion in Northern New Mexico Landscapes. Ecosystems 10:797-808.

Allen, Craig D., Daniel, M. Savage, D. A. Falk, K. F. Suckling, T. W. Swetnam, T. Schulke, P. B. Stacey, P. Morgan, M. Hoffman, and J. Klingel
2002 Ecological Restoration of Southwestern Ponderosa Pine Ecosystems: A Broad Perspective. Ecological Applications 12(5):1418-1433.

Allen, Craig D., R. Scott Anderson, Renata B. Jass, Jaime L. Toney, and Christopher H. Baisan
2008 Paired Charcoal and Tree-Ring Records of High-Frequency Holocene Fore from Two New Mexico Bog Sites. International Journal of Wildland Fire 17:115-130.

Always Remember
n.d. 1993 04/22 NM Frankie Toledo. Accessed on-line: 5/28/2013, http://www.wlfalwaysremember.org/incident-lists/184-frankie-toledo-buchanan-rx.html.

Anderson, M. Kat
2005 Tending the Wild: Native American Knowledge and the Management of California's Natural Resources. Berkley: University of California Press.

Anschuetz, Kurt F.

1998 Not Waiting for the Rain: Integrated Systems of Water Management by Pre-Columbian Pueblo Farmers in North-Central New Mexico. Ph.D. dissertation, Department of Anthropology, University of Michigan. Ann Arbor, MI: University Microfilms.

2000 The Past Is Not a Pickle: Use of Archaeological Resources in Sustaining Northern New Mexico Community Traditions. Paper presented at 99th Annual Meeting for the American Anthropological Association, November 16, 2000. San Francisco.

2002a The Challenge of Learning to Hear the Storied Landscape. *In* "That Place People Talk About": The Petroglyph National Monument Ethnographic Landscape Report, by Kurt F. Anschuetz, T. J. Ferguson, Harris Francis, Klara B. Kelley, and Cherie L. Scheick. Pp. 9.1–9.10. Community and Cultural Landscape Contribution VIII. Prepared for: National Park Service, Petroglyph National Monument, Albuquerque, New Mexico, NPS Contract No. 14431CX712098003 (RGF 109B). Santa Fe: Rio Grande Foundation for Communities and Cultural Landscapes.

2002b The Transformation of Edge Into Center: Anglo Cultural Landscapes and the Petroglyph National Monument. *In* "That Place People Talk About": The Petroglyph National Monument Ethnographic Landscape Report, by Kurt F. Anschuetz, T. J. Ferguson, Harris Francis, Klara B. Kelley, and Cherie L. Scheick. Pp. 8.1–8.11. Community and Cultural Landscape Contribution VIII. Prepared for: National Park Service, Petroglyph National Monument, Albuquerque, New Mexico, NPS Contract No. 14431CX712098003 (RGF 109B). Santa Fe: Rio Grande Foundation for Communities and Cultural Landscapes.

2005 Landscapes as Memory: Archaeological History to Learn From and to Live By. *In* Engaged Anthropology: Research Essays on North American Archaeology, Ethnobotany, and Museology, Papers in Honor of Richard I. Ford. Michelle Hegmon and B. Sunday Eiselt, ed. Pp. 52–72. Anthropological Papers No. 94. Ann Arbor: Museum of Anthropology, University of Michigan, Ann Arbor.

2007a Appendix III: Perspectives on Culture, Tradition, Vernacular Knowledge, and Culture Change to Understand Landscape as a Cultural Process. *In* More Than a Scenic Mountain Landscape: Valles Caldera National Preserve Land Use History. Kurt F. Anschuetz and Thomas Merlan. Pp. 263-266. General Technical Report RMRS-GTR-196. Fort Collins, CO: USDA, Forest Service, Rocky Mountain Research Station.

2007b Appendix II. Introducing a Landscape Approach for Evaluating Communities' Traditional senses of Time and Place. *In* More Than a Scenic Mountain Landscape: Valles Caldera National Preserve Land Use History. Kurt F. Anschuetz and Thomas Merlan. Pp. 249-261. General Technical Report RMRS-GTR-196. Fort Collins, CO: USDA, Forest Service, Rocky Mountain Research Station.

2007c The Valles Caldera National Preserve as a Multi-Layered Ethnographic Landscape. *In* More Than a Scenic Mountain Landscape: Valles Caldera National Preserve Land Use History. Kurt F. Anschuetz and Thomas Merlan. Pp. 129-162. General Technical Report RMRS-GTR-196. Fort Collins, CO: USDA, Forest Service, Rocky Mountain Research Station.

2008 Progress Report: Use, Access, and Fire/Fuels Management Attitudes and Preferences of User Groups Concerning the Valles Caldera National Preserve (VCNP) and Adjacent Areas. Forest Service Joint Venture Agreement Number: 07-JV-11221602. Cooperator Agreement Number: KFA 2007-026. March 31, 2008. Ms. on file, Albuquerque, NM: USDA, Forest Service, Rocky Mountain Research Station.

2010 Progress Report: Phase I: Use, Access, and Fire/Fuels Management Attitudes and Preferences of User Groups Concerning the Valles Caldera National Preserve (VCNP) and Adjacent Areas. Forest Service Joint Venture Agreement Number: 07-JV-11221602. Cooperator Agreement Number: KFA 2007-026. June 11, 2010. Ms. on file, Albuquerque, NM: USDA, Forest Service, Rocky Mountain Research Station.

2012 Progress Report: Phases II and III: Use, Access, and Fire/Fuels Management Attitudes and Preferences of User Groups Concerning the Valles Caldera National Preserve (VCNP) and Adjacent Areas. Forest Service Joint Venture Agreement Number: 07-JV-11221602. Cooperator Agreement Number: KFA 2007-026. October 5, 2012. Ms. on file, Albuquerque, NM: USDA, Forest Service, Rocky Mountain Research Station.

Anschuetz, Kurt F., and Thomas Merlan

2007 More Than a Scenic Mountain Landscape: Valles Caldera National Preserve Land Use History. General Technical Report RMRS-GTR-196. Fort Collins, CO: USDA, Forest Service, Rocky Mountain Research Station.

Anschuetz, Kurt F., and Cherie L. Scheick

1998 Unveiling Archaeological Tierra Incognita: Evaluating Time, Place-making and Tradition through a Cultural Landscape Paradigm. Paper presented at the 63rd Annual Meeting of the Society for American Archaeology, Seattle, WA, March 25–29, 1998.

Anschuetz, Kurt F., Richard W. Wilshusen, and Cherie L. Scheick

2001 An Archaeology of Landscapes: Perspectives and Directions. Journal of Archaeological Research 9:157–211.

Anyon, Roger, T. J. Ferguson, Loretta Jackson, Lillie Lane, and Philip Vicenti

1997 Oral Tradition and Archaeology: Issues of Structure. *In* Native Americans and Archaeologists: Stepping Stones to Common Ground,. Nina Swidler, Kurt E. Dongoske, Roger Anyon, and Alan S. Downer, eds. Pp. 77–87. Walnut Creek, CA: Altamira Press.

Aplet, Gregory H., and David N. Cole
2010 The Trouble with Naturalness: Rethinking Park and Wilderness Goals. *In* Beyond Naturalness: Rethinking Park and Wilderness Stewardship in an Era of Rapid Change. David N. Cole and Laurie Yung, eds. Pp. 12-29. Washington, DC: Island Press.

Aplet, Gregory, Janice Thompson, and Mark Wilbert
2000 Indicators of Wilderness: Using Attributes of the Land to Assess the Context of Wilderness. *In* Wilderness Science in a Time of Change Conference. vol. 2. Wilderness Within the Context of Larger Systems, May 23-27, 1999, Missoula, MT. Stephen F. McCool, David N. Cole, William T. Borrie, and Jennifer O'Loughlin, comps. Pp. 89-98. Proceedings RMRS-P-15-VOL-2. Ogden, UT: USDA, Forest Service, Rocky Mountain Research Station.

Appleton, Jay
1975 The Experience of Landscape. London: John Wiley and Sons.

Arellano, Estevan
2007 Querencia: The Soul of the Paisano. Quivira Coalition Journal 31:9-14.

Atran, Scott
1990 Cognitive Foundations of Natural History: Towards an Anthropology of Science. Cambridge: Cambridge University Press.

Bahre, Conrad Joseph
1991 A Legacy of Change: Historic Human Impact on Vegetation in the Arizona Borderlands. Tucson: University of Arizona Press.

Baisan, Christopher H., and Thomas W. Swetnam
1997 Interactions of Fire Regimes and Land Use in the Central Rio Grande Valley. Research Paper RM-RP-330. Fort Collins, CO: Rocky Mountain Forest and Range Experiment Station, USDA Forest Service.

Barth, Fredrik
2002 An Anthropology of Knowledge. Current Anthropology 43(1):1-11.

Basso, Keith
1996 Wisdom Sits in Places: Landscape and Language among the Western Apache. Albuquerque: University of New Mexico Press.

Bateson, Gregory
1978 The Pattern Which Connects. The Co-Evolution Quarterly (Summer):4-15.

Beaulieu, Jean T., and Richard Schreyer
1984 Choices of Wilderness Environments-Differences between Real and Hypothetical Choice Situations. *In* Proceedings--Symposium on Recreation Choice Behavior; March 22-23, 1984. George H. Stankey and Stephen F. McCool, comps. Pp. 38-45. General Technical Report INT-212. Ogden, UT: USDA Forest Service, Intermountain Research Station.

Bender, Barbara
2002 Time and Landscape. Current Anthropology 43(Supplement, August-October):S103-S112.

Biolsi, Thomas
1997 The Anthropological Construction of "Indians:" Haviland Scudder Mekeel and the Search for the Primitive in Lakota Country. *In* Indians and Anthropologists: Vine Deloria, Jr., and the Critique of Anthropology. Thomas Biolsi and Larry J. Zimmerman, eds. Pp. 133–159. Tucson: University of Arizona Press.

Binford, Lewis R.
1982 The Archaeology of Place. Journal of Anthropological Archaeology 1:5–31.

1983 Long-Term Land-Use Patterning: Some Implications for Archaeology. *In* Working at Archaeology. Lewis R. Binford. Pp. 379–386. New York: Academic Press.

Blouet, Brian W. and Merlin P. Lawson, eds.
1975 Images of the Plains: The Role of Human Nature in Settlement. Lincoln: University of Nebraska Press.

Boone, James L.
1994 Is It Evolution Yet?: A Critique of "Darwinian Archeology." Paper presented at the 59th Annual Meeting of the Society for American Archaeology, Anaheim, CA.

Botkin, Daniel B.
2000 Wilderness Science: An Oxymoron? *In* Wilderness Science in a Time of Change Conference. vol. 1. Changing Perspectives and Future Directions, May 23-27, 1999, Missoula, MT, David N. Cole, Stephen F. McCool, Wayne Freimund, and Jennifer O'Loughlin, comps. Pp. 48-51. Proceedings RMRS-P-15-VOL-1. Ogden, UT: USDA Forest Service, Rocky Mountain Research Station.

Browne, Stephen H.
1995 Reading, Rhetoric and the Texture of Public Memory. Quarterly Journal of Speech 81:237-265.

Brumann, Chistoph
1999 Writing for Culture: Why a Successful Concept Should Not Be Discarded. Current Anthropology 40(Supplement):S1–S27.

Budiansky, Stephen
1998 Some Historical Influences on Modern Views of Nature in America. Transactions of the Wisconsin Academy of Sciences, Arts and Letters 86:19-34.

Cachelin, Adrienne, Jeff Rose, Dan Dustin, and Wynn Shooter
2011 Sustainability in Outdoor Education: Rethinking Root Metaphors. Journal of Sustainability Education 2. Accessed on-line: 2/26/2013, http://utah.academia.edu/JeffRose/Papers/499297/Sustainability_in_Outdoor_Education_Rethinking_Root_Metaphors.

Cajete, Gregory
1993–1994 "An Ensouled and Enchanted Land:" Theology of Place in Northern New Mexico. *In* Cuaderno de la Resolana: A Rio Arriba Bioregion "Pullout" Workbook. Juan Estevan Arellano, ed. Pp. 6–9. Arellano 6 (Winter). Embudo, NM.

1994 Look to the Mountain: An Ecology of Indigenous Education. Durango, CO: Kivakí Press.

1999 "Look to the Mountain": Reflections on Indigenous Ecology. *In* A People's Ecology: Explorations in Sustainable Living. Gregory Cajete, ed. Pp. 1–20. Santa Fe, NM: Clear Light.

Carlisi, Alison, and Teralene Foxx
2005 The Forest and the Fire. Los Alamos, NM: Los Alamos Historical Society.

Callicott, J. Baird, and Michael P. Nelson, eds.
1998 The Great New Wilderness Debate. Athens: University of Georgia Press.

Carmichael, David L., Jane Hubert, Brian Reeves, and Audhild Schanche, eds.
1994 Sacred Sites, Sacred Places. London Routledge.

Carson, Rachel
1962 Silent Spring. New York: Fawcett.

1965 The Sense of Wonder. New York: Harper and Row.

Casey, Edward S.
2004 Public Memory in Place and Time. *In* Framing Public Memory. Kendall R. Phillips, ed. Pp. 17-44. Tuscaloosa: University of Alabama Press.

Cessford, Gordon R.
2000 Identifying Research Needs for Improved Management of Social Impacts, in Wilderness Recreation. *In* Wilderness Science in a Time of Change Conference. vol. 3. Wilderness Within the Context of Larger Systems, May 23-27, 1999, Missoula, MT. Stephen F. McCool, David N. Cole, William T. Borrie, and Jennifer

O'Loughlin, comps. Pp. 231-238. Proceedings RMRS-P-15-VOL-3. Ogden, UT: USDA Forest Service, Rocky Mountain Research Station.

Chavez, Tibo J.
1972 New Mexican Folklore of the Rio Abajo. Portales, NM: Bishop Printing Company.

Cleere, H.
1995 Cultural Landscapes as World Heritage. Conservation and Management of Archaeological Sites 1:63–68

Cohen, Michael P.
1984 *The Pathless Way: John Muir and American Wilderness.* Madison: University of Wisconsin Press.

Cole, David N.
2000 Paradox of the Primeval: Ecological Restoration in Wilderness. Ecological Restoration 18(2):77-86.

2003 Agency Policy and the Resolution of Wilderness Stewardship Dilemmas. George Wright Forum 20(3):26-33.

2005 Symbolic Values: The Overlooked Values That Make Wilderness Unique. International Journal of Wilderness 11(2):10, 23-27.

Cook, Robert E.
1996 Is Landscape Preservation an Oxymoron? George Wright Forum 13(1):42-53.

Cordell, H. Ken, and John C. Bergstrom, eds.
1999 Integrating Social Sciences with Ecosystem Management: Human Dimensions in Assessment, Policy, and Managemente. Champaign, IL: Sagamore.

Cowley, Jill
1991 Canyon de Chelley—An Ethnographic Landscape. CRM 14 (6):10–11. Washington, DC: USDI National Park Service.

1994 The O'Keefe Landscape: Setting the Stage for Interpretation. *In* Thematic Issue on Landscape Interpretation. Charles A. Birnbaum and Robert R. Page, eds. CRM 17(7):28–31. Washington, DC: USDI National Park Service.

Cronon, William
1995a The Trouble with Wilderness; or, Getting Back to the Wrong Nature. *In* Uncommon Ground: Rethinking the Human Place in Nature. William Cronon, ed. Pp. 69-90. New York: W. W. Norton.

-----, ed.
1995b Uncommon Ground: Rethinking the Human Place in Nature. New York: W. W. Norton.

Crowe, Norman
1997 Nature and the Idea of a Man-Made World: An Investigations into the Evolutionary Roots of Form and Order in the Built Environment. Cambridge: MIT Press.

Crumley, Carole L.
1994 Historical Ecology: A Multidimensional Ecological Orientation. *In* Historical Ecology: Cultural Knowledge and Changing Landscapes. Carole L. Crumley, ed.. Pp. 1–16. Santa Fe, NM: School of American Research Press.

Cosgrove, Denis E.
1984 Social Formation and Symbolic Landscape. London: Croom Helm.

1998 Social Formation and Symbolic Landscape, with a New Introduction. Madison: University of Wisconsin Press.

Curtain, L. S. M.
1965 Healing Herbs of the Upper Rio Grande. Los Angeles: Southwest Museum.

Cushman, David W.
1993 When Worlds Collide: Indians, Archeologists, and the Preservation of Traditional Cultural Properties. Patricia L. Parker, guest ed. Pp. 49–54. CRM 16 (Special Issue). Washington, DC: National Park Service.

Daniel, Terry C., Matthew S. Carroll, Cassandra Mosely, and Carol Raish, editors
2007 People, Fire, and Forests: A Synthesis of Wildfire Social Science. Corvallis: Oregon State University Press.

deBuys, William
2004 Burned. Conservation Magazine 5(4). Accessed on-line: 2/01/2013, http://www.conservationmagazine.org/2008/07/burned/.

deBuys, William, and Don J. Usner
2006 Valles Caldera: A Vision for New Mexico's National Preserve. Santa Fe, NM: Museum of New Mexico Press.

Deetz, James
1990 Landscapes as Cultural Statements. *In* Earth Patterns: Essays in Landscape Archaeology. William M. Kelso and Rachel Most, eds. Pp. 2–4. Charlottesville University Press of Virginia.

Deming, Alison H., and Lauret E. Savoy
2002 Introduction as Conversation. *In* The Colors of Nature: Culture, Identity, and the Natural World. Alison M. Deming and Lauret E. Savoy, eds. Pp. 3-15. Minneapolis, MN: Milkweed Editions.

Domosh, Mona
1995 The Symbolism of the Skyscraper: Case Studies of New York's First Tall Buildings. *In* Re-reading Cultural Geography. Kenneth E. Foote, Peter J. Hugill, Kent Mathewson, and Jonathan M. Smith, eds. Pp. 48–63. Austin: University of Texas Press.

Downer, Alan S., and Alexandra Roberts
1993 Traditional Cultural Properties, Cultural Resources Management, and Environmental Planning. Patricia L. Parker, guest ed. Pp. 12–14. CRM 16 (Special Issue). Washington, DC: National Park Service.

Dunmire, William W., and Gail D. Tierney
1995 Wild Plants of the Pueblo Province: Exploring Ancient and Enduring Uses. Santa Fe: Museum of New Mexico Press.

Dustin, Daniel, Jeff Rose, Adrienne Cachelin, Wynn Shooter, and Scott Schumann
2012 Imagining Wilderness. *In* Wilderness Visitor Experiences: Progress in Research and Management, April 4-7, 2011, Missoula, MT. David N. Cole, comps. Pp. 211-219. Proceedings RMRS-P-66. Fort Collins, CO: USDA Forest Service, Rocky Mountain Research Station.

Echo-Hawk, Roger C.
2000 Ancient History in the New World: Integrating Oral Traditions and the Archaeological Record. American Antiquity 65:267–290.

Eiselt, B. Sunday, and Michelle Hegmon
2005 Conversations with an Engaged Anthropologist: An Interview with Richard I. Ford. *In* Engaged Anthropology: Research Essays on North American Archaeology, Ethnobotany, and Museology, Papers in Honor of Richard I. Ford. Michelle Hegmon and B. Sunday Eiselt, ed. Pp. xiii–xxviii. Anthropological Papers No. 94. Ann Arbor: Museum of Anthropology, University of Michigan, Ann Arbor.

Evans, Michael J., Richard W. Stoffle, and Sandra Lee Pinel
1993 Petroglyph National Monument Rapid Ethnographic Assessment Project. Tucson: Bureau of Applied Research in Anthropology, University of Arizona.

Evans, Michael J., Alexa Roberts, and Peggy Nelson
2001 Ethnographic Landscapes. CRM 24(5):53–56.

Evernden, Neil
1992 The Social Creation of Nature. Baltimore: Johns Hopkins University Press.

Fahey, John
n.d. Believing, Behaving and Belonging in Modern Anthropology. Accessed on-line: 8/23/2013, http://www.academia.edu/2780305/Believing_Behaving_and_Belonging_in_Modern_Anthropology.

Favret-Saada, Jeanne
2012 Death at Your Heels: When Ethnographic Writing Propogates the Force of Witchcraft. HAU: Journal of Ethnographic Theory 2(1):45-53.

Feld, Steven, and Keith H. Basso
1996 Introduction. *In* Senses of Place. Steven Feld and Keith H. Basso, eds. Pp. 3–11. Santa Fe, NM: School of American Research Press.

Ferguson, T. J., Kurt Dongoske, Leigh Jenkins, Mike Yeatts, and Eric Polingyouma
1993 Working Together, the Roles of Archeology and Ethnohistory in Hopi Cultural Preservation. *In* Traditional Cultural Properties. Patricia L. Parker, ed. CRM 16 (Special Issue):27–37. Washington, DC: USDI National Park Service

Fincher, Mark
2012 Humans Apart from Nature? Wilderness Experience and the Wilderness Act. *In* Wilderness Visitor Experiences: Progress in Research and Management, April 4-7, 2011, Missoula, MT. David N. Cole, comp. Pp. 152-157. Proceedings RMRS-P-66. Fort Collins, CO: USDA Forest Service, Rocky Mountain Research Station.

Flinn, M. and R. D. Alexander
1982 Culture Theory: The Developing Synthesis from Biology. Human Ecology 10:383-400.

Foote, Kenneth E.
1995 What the World Means: Introduction. *In* Re-reading Cultural Geography. Kenneth E. Foote, Peter J. Hugill, Kent Mathewson, and Jonathan M. Smith, eds. Pp. 291–296. Austin: University of Texas Press.

Ford, Karen Cowan
1975 *Las Yerbas de la Gente*: A Study of Hispano-American Medicinal Plants. Anthropological Papers 60. Ann Arbor: University of Michigan, Museum of Anthropology.

Ford, Richard I.
1968 An Ecological Analysis Involving the Population of San Juan Pueblo, New Mexico. Ph.D. dissertation, Department of Anthropology, University of Michigan. Ann Arbor.

Friedman, Renee
1994 For the Curator of Trees and Teacups: The Landscape as Artifact. *In* Thematic Issue on Landscape Interpretation. Charles A. Birnbaum and Robert R. Page, eds. CRM 17(7):5–6, 9. Washington, DC: USDI National Park Service.

Foxx, Teralene S.
2000 Out of the Ashes: A Story of Natural Recovery. LALP-01-20. Los Alamos, NM: Los Alamos National Laboratory.

Foxx, Teralene S., compiler
1984 Los Alamos Fire Symposium, Los Alamos, New Mexico, October 6-7, 1981. LA-9236-NERP. Los Alamos, NM: Los Alamos National Laboratory.

Foxx, Teralene S.,, compiler
2001 Lest We Forget: Stories of the White Rock United Methodist Church and the Cerro Grande Fire, May 2000. 2nd printing. Albuquerque: GSI.

Foxx, Teralene S., and Loren D. Potter
1978 Fire Ecology at Bandelier National Monument. Unpublished MS on file. Bandelier National Monument, NM.

Geertz, Clifford
1973 [1957] Ethos, World View and the Analysis of Sacred Symbols. In The Interpretation of Cultures. Pp. 126-141. New York: Basic Books.

Geertz, Armin R.
1994 The Invention of Prophecy: Continuity and Meaning in Hopi Religion. Berkeley: University of California Press.

Gellman, Rabbi Marc
2013 Frankley, 'Mother Nature' Can't Hold a Candle to God. Chicago Tribune (February 19, 2013). Accessed on-line: 2/27/2013, http://www.chicagotribune.com/features/tribu/sns-201302191730--tms--godsqudctngs-a20130221-20130221,0,993844.story.

Gellner, E.
1991 What is Structuralisme? In Theory and Explanation in Archaeology: The Southampton Conference. C. Renfrew, M. J. Rowlands, and B. A. Segraves, eds. Pp. 97-123. New York: Academic Press.

Gantt, S. Douglas
2000 Perceptions of Wilderness Management Attributes: A Study of Wilderness Users. Unpublished MA Thesis, Department of Geography. Carbondale: Southern Illinois University,.

Gobster, Paul H., Joan I. Nassauer, Terry C. Daniel, and Gary Fry
2007 The Shared Landscape: What Does Aesthetics Have to do With Ecology? Landscape Ecology 22:959-972.

Goff, Kristin
2000 Relating High Altitude Pulmonary Edema in Cattle to Birthplace. The Blue Spruce Almanac: A Colorado Compendium. Accessed on-line: 6/7/2013, http://www.grandturk.org/almanac/edema.html.

Greider, T., and Garkovich, L.
1994 Landscapes: The Social Construction of Nature and the Environment. Rural Sociology 59(1):1-24.

Hall, Edward T.
1959 The Silent Language. Garden City, NY: Doubleday.

1969 The Hidden Dimension. Garden City, NY: Doubleday.

Hall, Troy E., and David N. Cole
2012 Immediate Conscious Experience in Wilderness: A Phenomenological Investigation. *In* Wilderness Visitor Experiences: Progress in Research and Management, April 4-7, 2011, Missoula, MT. David N. Cole, comp. Pp. 37-49. Proceedings RMRS-P-66. USDA Forest Service, Rocky Mountain Research Station, Fort Collins, CO.

Harmon, David
2010 Law Heart of the Matter: New Essential Reading and Parks, Protected Areas, and Cultural Sites. George Wright Form 27 (3):255-259.

Harrington, Jon Peabody
1916 The Ethnogeography of the Tewa Indians. *In* Twenty-Ninth Annual Report of the Bureau of American Ethnology to the Secretary of the Smithsonian Institution, 1907–1908. W. H. Holmes, ed. Pp. 29–636. Washington, DC: U.S. Government Printing Office.

Harvey, David
1996 Justice, Nature and the Geography of Difference. Oxford: Blackwell.

Heise, Ursula K.
2006 The Hitchhiker's Guide to Ecocriticism. PLMA [Publications for the Modern Language Association of America] 121:503-516.

Hena, Louis, and Kurt F. Anschuetz
2000 Living on the Edge: Combining Traditional Pueblo Knowledge, Permaculture, and Archeology. CRM 23(9):37–41.

Hendee, John C., and George H. Stankey
1973 Biocentricity in Wilderness Management. BioSceince 23(9):535-538.

Higham, J. E. S., G. W. Kearsley, and A. D. Kliskey
2000 Wilderness Perception Scaling in New Zealand: An Analysis of Wilderness Perceptions Held by Users, Non-Users and International Visitors. *In* Wilderness Science in a Time of Change Conference. vol. 2. Wilderness Within the Context of Larger Systems, May 23-27, 1999, Missoula, MT. Stephen F. McCool, David N. Cole, William T. Borrie, and Jennifer O'Loughlin, comps. Pp. 218-222. Proceedings RMRS-P-15-VOL-2. Ogden, UT: USDA, Forest Service, Rocky Mountain Research Station.

Hills, M. D.
2002 Kluckhohn and Strodtbeck's Values Orientation Theory. Online Readings in Psychology and Culture, Unit 4. Accessed: 2/6/2013, http://scholarworks.gvsu.edu/orpc/vol4/iss4/3.

Hirsch, Eric
1995 Introduction, Landscape: Between Place and Space. *In* The Anthropology of Landscape, Perspectives on Place and Space. Eric Hirsch and Michael O'Hanlon, eds. Pp. 1–30. Oxford: Clarendon Press.

Hoskins, W. G.
1955 The Making of the English Landscape. London: Hodder and Stoughton.

Hubert, Jane
1994 Sacred Beliefs and Beliefs of Sacredness. *In* Sacred Sites, Sacred Places. David L. Carmichael, Jane Hubert, Brian Reeves, and Audhild Schanche, eds. Pp. 9–19. London: Routledge.

Hugill, Peter J., and Kenneth E. Foote
1995 Re-reading Cultural Geography. *In* Re-reading Cultural Geography. Kenneth E. Foote, Peter J. Hugill, Kent Mathewson, and Jonathan M. Smith, eds. Pp. 9–23. Austin: University of Texas Press.

Hull, R. Bruce, David Richert, Erin Seekamp, David Robertson, and Gregory J. Buhyoff
2003 Understandings of Environmental Quality: Ambiguities and Values Held by Environmental Professionals. Environmental Management 31(1):1-13.

Hunt, John Dixon
1996 The Nature of Culture and the Culture of Nature. George Wright Forum 13(1):54-63.

Hunter, Ian M. L.
1964 Memory. rev. ed. New York: Penguin Books.

Hurst, William D.
1972 Region 3 Policy on Managing National Forest Land in Northern New Mexico. Memo on file, U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station, Albuquerque Laboratory, RMRS-4853, Albuquerque, NM.

Ingold, Tim
1993 The Temporality of Landscape. World Archaeology 25:152–174.

2000 The Perception of the Environment: Essays on Livelihood, Dwelling, and Skill. London: Routledge.

Jackson, John Brinkerhoff
1980 The Necessity for Ruins. *In* The Necessity for Ruins and Other Topics. John Brinkerhoff Jackson. Pp. 89–102. Amherst: University of Massachusetts Press.

1984 Discovering the Vernacular Landscape. New Haven: Yale University Press.

1994 A Sense of Place, a Sense of Time. New Haven: Yale University Press.

Jervis, Thomas
2013 Report. Email to Kurt Anschuetz, dated August 2, 2013.

Johnson, George
1995 Fire in the Mind: Science, Faith, and the Search for Order. Vintage Books, New York.

Kearney, A. R., and S. Kaplan
1997 Toward a Methodology for the Measurement of Knowledge Structures of Ordinary People: The Conceptual Content Cognitive Map (3CM). Environment and Behavior 29(5):579-617.

Kelley, Klara B., and Harris Francis
1994 Navajo Sacred Places. Bloomington: Indiana University Press.

Kincaid, Jamaica
1999 My Garden (Book). New York: Farrer, Straus, and Giroux.

King, Cecil
1997 Here Come the Anthros. *In* Indians and Anthropologists: Vine Deloria, Jr., and the Critique of Anthropology. Thomas Biolsi and Larry J. Zimmerman, eds. Pp. 115–119. Tucson: University of Arizona Press.

King, Thomas F.
1998 Cultural Resource Laws and Practice: An Introductory Guide. Walnut Creek, CA: Altamira.

2009 Our Unprotected Heritage: Whitewashing the Destruction of Our Cultural and Natural Environment. Walnut Creek, CA: Left Coast Press.

Kirch, Patrick V.
1980 The Archaeological Study of Adaptation: Theoretical and Methodological Issues. *In* Advances in Archaeological Method and Theory, vol. 3. M. B. Schiffer, ed. Pp. 101-156. New York: Academic Press.

Kluckhohn, Clyde K.
1951 Values and Value-Orientations in the Theory of Action: An Exploration in Definition and Classification. *In* Toward A General Theory of Action. Talcott Parsons and Edward. A. Shils, eds. Pp. 388-433. Cambridge: Harvard University Press.

Kluckhohn, Florence R., and Fred L. Strodtbeck
1961 Variations in Value Orientations. Evanston, IL: Row, Peterson.

Knapp, A. Bernard
1996 Archaeology without Gravity: Postmodernism and the Past. Journal of Archaeological Method and Theory 2:127–158.

Kottak, Conrad Phillip
1987 Anthropology: The Exploration of Human Diversity. 4th ed. New York: Random House

Kroeber, Alfred L., and Clyde Kluckhohn
1952 Culture: A Critical Review of Concepts and Definitions. Papers of the Peabody Museum of American Archaeology and Ethnology, vol. 47. Cambridge: Harvard University.

Küchler, Susanne
1993 Landscape as Memory: The Mapping of Process and Its Representation in a Melanesian Society. *In* Landscape Politics and Perspectives. Barbara Bender, ed. Pp. 85–106. Providence, RI: Berg.

Lackoff, George, and Mark Johnson
1980 Metaphors We Live By. Chicago: University of Chicago Press.

Landres, Peter
2010 Let It Be: A Hands-Off Approach to Preserving Wildness in Protected Areas. *In* Beyond Naturalness: Rethinking Park and Wilderness Stewardship in an Era of Rapid Change. David N. Cole and Laurie Yung, eds. Pp. 88-105. Washington, DC: Island Press.

Landres, Peter B., Mark W. Brunson, Linda Merigliano, Charisse Sydoriak, and Steve Morton
2000 Naturalness and Wildness: The Dilemma and Irony of Managing Wilderness. *In* Wilderness Science in a Time of Change Conference. vol. 5. Wilderness Ecosystems,

Threats, and Management, May 23-27, 1999, Missoula, MT. David N. Cole, Stephen F. McCool, William T. Borrie, and Jennifer O'Loughlin, comps. Pp. 377-381. Proceedings RMRS-P-15-VOL-5. Ogden, UT: USDA, Forest Service, Rocky Mountain Research Station.

Leopold, Aldo
1934 The Arboretum and the University. Parks and Recreation 18(2):59-60.

1939 A Biotic View of the Land. Journal of Forestry 37(9):727-730.

1941 Wilderness as a Land Laboratory. The Living Wilderness 6(July):3.

1949 A Sand Country Almanac, and Sketches Here and There. New York: Oxford University Press.

Levine, Frances, and Thomas W. Merlan
1993 Documenting Traditional Cultural Properties in Non-Indian Communities. *In* Traditional Cultural Properties. Patricia L. Parker, ed. CRM 16 (Special Issue):55–59, 64. Washington, DC: USDI National Park Service.

Linquist, Galina, and Simon Coleman
2008 Introduction: Against Belief? Social Analysis 52(1):1-18.

Louv, Richard
2007 Leave No Child Inside. Orion Magazine (March/April 2007). Accessed on-line: 9/27/2012, http://www.orionmagazine.org/index.php/articles/article/240/.

2008 Last Child in the Woods: Saving Our Children from Nature-Deficit Disorder. Updated and expanded. Chapel Hill, NC: Algonquin Books. First published 2005.

2011 The Nature Principle: Reconnecting with Life in a Virtual Age. Chapel Hill, NC: Algonquin Books.

Lowenthal, David
1971 Not Every Prospect Pleases. *In* The Cultural Landscape. Christopher L. Salter, ed. Pp. 229–235. Belmont, CA: Duxbury Press.

1979 Age and Artifact: Dilemmas of Appreciation. *In* The Interpretation of Ordinary Landscapes: Geographical Essays. D. W. Meinig, ed. Pp. 103-128. New York: Oxford University Press.

1985 The Past Is a Foreign Country. Cambridge: Cambridge University Press.

Margalef, Ramon
1968 Perspectives in Ecological Theory. Chicago: University of Chicago Press.

Marsh, George Perkins
1864 Man and Nature; Or, Physical Geography as Modified by Human Action. New York: Charles Scribner.

Martin, Craig
2003 Valle Grande: A History of the Baca Location No. 1. Los Alamos, NM: All Seasons Publishing.

Martin, Wade E., Carol Raish, and Brian Kent, editors
2008 Wildfire Risk: Human Perceptions and Management Implications. Washington, DC Resources for the Future

.

Matlin, Margaret M.
2005 Cognition. 6th ed. Hoboken, NJ: John Wiley.

McMurtry, Larry
1985 Lonesome Dove: A Novel. New York: Simon and Schuster.

McSweeney, Alice M.
1995 Views on Land and Nature: Conversations with Northern New Mexico Ranchers. Unpublished MS Thesis in Range Science, New Mexico State University, Las Cruces, NM.

McSweeney, Alice M., and Carol Raish
2012 Social, Cultural, and Economic Aspects of Livestock Ranching on the Santa Fe and Carson National Forests. General Technical Report RMRS-GTR-276. Fort Collins, CO: USDA, Forest Service, Rocky Mountain Research Station.

Meinig, Donald W.
1979 The Beholding Eye: Ten Versions of the Same Scene. *In* The Interpretation of Ordinary Landscapes: Geographical Essays. D. W. Meinig, ed. Pp. 33-48. New York: Oxford University Press.

Melnick, Robert Z.
1996 Moving Towards the Middle in a World of Extremes: Nature and Culture in Historic Landscapes. George Wright Forum 13(1):27-41.

Merchant, Carolyn
1980 The Death of Nature: Women, Ecology, and the Scientific Revolution. New York: Harper and Row.

1981 Earthcare. Environment 23(5):6-13, 38-40.

1995 Reinventing Eden: Western Culture as a Recovery Narrative. *In* Uncommon Ground: Rethinking the Human Place in Nature. William Cronon, ed. Pp. 114-131. New York: W. W. Norton.

2001 The Death of Nature. *In* Environmental Philosophy: From Animal Rights to Radical Ecology, 3rd ed. Michael E. Zimmerman, gen. ed., and J. Baird Callicott, George Sessions, Karen J. Warren, and John Clark, assoc. eds. Pp. 273-286. Upper Saddle River, NJ: Prentice Hall.

Mitchell, Nora J., and Robert R. Page
1993 Managing the Past for the Future. *In* Focus on Landscape Preservation. Charles A. Birnbaum, ed. Pp. 46–61. Historic Preservation Forum 71(3). Washington, DC: National Trust for Historic Preservation.

Mollison, Bill
1988 Permaculture: A Designer's Manual. Tyalgum, Australia: Tagair Publications.

Moore, George Edward
1953 Some Main Problems of Philosophy. London: Allen and Unwin.

Moore, Michael
1979 Medicinal Plants of the Mountain West: A Guide to the Identification, Preparation, and Uses of Traditional Medicinal plants Found in the Mountains, Foothills, and Upland Areas of the American West. Santa Fe: Museum of New Mexico Press.

Morphy, Howard
1993 Colonialism, History, and the Construction of Place: The Politics of Landscape in Northern Australia. *In* Landscape Politics and Perspectives. Barbara Bender, ed. Pp. 205–243. Oxford: Berg.

Morrison, Art
2013 Untitled Letter to Kurt Anschuetz, dated August 16, 2013.

Morton, Gary
2013 VCNP Report. Email to Kurt Anschuetz, dated August 5, 2013.

2013 Re: VCNP Report. Email to Kurt Anschuetz, dated August 6, 2013.

Mugerauer, Robert
1995 Interpreting Environments: Traditions, Deconstruction, Hermeneutics. Austin, University of Texas Press.

Muir, John
1901 Our National Parks. Boston: Houghton Mifflin.

1912 The Yosemite. New York: Century Company.

Nabhan, Gary Paul, and Stephen Trimble
1994 The Geography of Childhood: Why Children Need Wild Places. Boston, MA: Bacon Press.

Naranjo, Tito, and Rina Swentzell
1989 Healing Spaces in the Pueblo World. American Indian Culture and Research Journal 13(3–4):257–265.

Nash, Roderick
2001 Wilderness and the American Mind. 4th ed. New Haven, CT. Yale University Press.

National Park Service
1995 Revised Draft: Guidelines for the Treatment of Cultural Landscapes. Charles A. Birnbaum, ed. Washington, DC: USDI National Park Service, cultural Resource Stewardship and Partnerships, Heritage Preservation Services, Historic Landscape Initiative.

Nazarea, Virginia D.
1999 Lenses and Latitudes in Landscapes and Lifescapes. *In* Ethnoecology: Situated Knowledge/Located Lives. Virginia D. Nazarea, ed. Pp. 91–106. Tucson: University of Arizona Press.

Needham, Rodney
1972 Belief, Language and Experience. Oxford: Basil Blackwell.

Nelson, Michael P., and J. Baird Callicott, eds.
2008 The Wilderness Debate Rages On: Continuing the Great New Wilderness Debate. University of Georgia Press, Athens.

Nelson, R. K.
1983 Make Prayers to the Raven: A Koyukon View of the Northern Forest. Chicago: University of Chicago Press.

Nevius, Blake
1976 Cooper's Landscapes: An Essay on the Picturesque Vision. Berkley: University of California Press.

Norton, William
1989 Explorations in the Understanding of Landscape: A Cultural Geography. Contributions in Sociology 77. New York: Greenwood Press.

Norwood, Vera L.
1987 The Nature of Knowing: Rachel Carson and the American Environment. Signs: Journal of Women in Culture and Society 12(4):740-760.

2001 Disturbed Landscape/Disturbing Processes: Environmental History for the Twenty-First Century. Pacific Historical Review 70(1):77-89.

Noss, Reed F.

1994 Wildlands—Now More Than Ever: A Response to Callicott. Wild Earth (Winter 94/95):60-68.

Oelschlager, Max
1991 The Idea of Wilderness: From Prehistory to the Age of Ecology. New Haven, CT: Yale University Press.

Olwig, Kenneth R.
1995 Reinventing a Common Nature: Yosemite and Mount Rushmore—A Meandering Tale of a Double Nature. *In* Uncommon Ground: Rethinking the Human Place in Nature. William Cronon, ed. Pp. 379-408. New York: W. W. Norton.

Orr, David W.
2008 The Not-So-Great Wilderness Debate...Continued. *In* The Wilderness Debate Rages On: Continuing the Great New Wilderness Debate. Michael P. Nelson and J. Baird Callicott, eds. Pp. 423-434. Athens: University of Georgia Press.

Ortiz, Alfonso
1969 The Tewa World: Space, Time, Being, and Becoming in a Pueblo Society. Chicago: University of Chicago Press.

Ortiz, Simon J.
1992 Woven Stone. Tucson: University of Arizona.

Page, Robert R., Cathy A. Gilbert, and Susan Dolan
1998 A Guide to Cultural Landscape Reports: Contents, Process, and Techniques. Park Historic Structures and Cultural Landscapes Program, Cultural Resource Stewardship and Partnerships, USDI National Park Service. Washington, DC: U.S. Government Printing Office.

Parcero Oubiña, C., G. Criado Boado, and M. Santos Estévez
1998 Rewriting Landscape: Incorporating Sacred Landscapes into Cultural Traditions. World Archaeology 30:159–178.

Parker, Patricia L., ed.
1993 What You Do and How We Think. *In* Traditional Cultural Properties. Patricia L. Parker, ed. CRM 16 (Special Issue):1, 3–5. Washington, DC: USDI National Park Service.

Parker, Patricia L., and Thomas F. King
1990 Guidelines for Evaluating and Documenting Traditional Cultural Properties. National Register Bulletin 38. Washington, DC: USDI National Park Service.

Parsons, David J.
2000 The Challenge of Scientific Activities in Wilderness. *In* Wilderness Science in a Time of Change Conference. vol. 3. Wilderness Within the Context of Larger

Systems, May 23-27, 1999, Missoula, MT. Stephen F. McCool, David N. Cole, William T. Borrie, and Jennifer O'Loughlin, comps. Pp. 252-257. Ogden, UT: Proceedings RMRS-P-15-VOL-3. USDA Forest Service, Rocky Mountain Research Station.

Peckham, Stewart
1990 From this Earth: The Ancient Art of Pueblo Pottery. Santa Fe: Museum of New Mexico Press.

Phelps Dodge Corporation
1993 Mysteries in Stone. Cavalcade of Enchantment, vol. 1. Albuquerque: Phelps Dodge Corporation.

Phillips, Kendall R.
2004 Introduction. *In* Framing Public Memory. Kendall R. Phillips, ed. Pp. 1-16. Tuscaloosa: University of Alabama Press.

Popcock, Douglas C. D.
1994 [1981] Place and the Novelist. *In* Re-Reading Cultural Geography. Kenneth E. Foote, Peter J. Hugill, Kent Mathewson, and Jonathan M. Smith, eds. Pp. 363–373. Austin: University of Texas Press.

Proctor, James D.
1995 Whose Nature?: The Contested Moral Terrain of Ancient Forests. *In* Uncommon Ground: Rethinking the Human Place in Nature. William Cronon, ed. Pp. 269-297. New York: W. W. Norton.

1998 The Social Construction of Nature: Relativist Accusations, Pragmatist and Critical Realist Responses. Annals of the Association of American Geographers 88(3):352-376.

Proust, Marcel
1983 Remembrance of Things Past (1913-27). 3 vol. C. K. Scott Moncrieff and Terence Kilmartin, trans. New York: Penguin Books.

Ransom, James W., and Kreg T. Ettenger
2001 'Polishing the Kaswentha': A Haudenosaunee View of Environmental Perception. Environmental Science and Policy 4: 219-228.

Rapoport, Amos
1990 History and Precedent in Environmental Design. New York: Plenum.

Rappaport, Roy A.
1979a Adaptive Structure and Its Disorders. *In* Ecology, Meaning, and Religion. Roy A. Rappaport. Pp. 145-172. Berkeley, CA: North Atlantic Books.

1979b On Cognized Models. *In* Ecology, Meaning, and Religion. Roy A. Rappaport. Pp. 97-144. Berkeley, CA: North Atlantic Books.

1979d Ecology, Adaptation, and the Ills of Functionalism. Roy A. Rappaport. *In* Ecology, Meaning, and Religion. Pp. 43-95 Berkeley, CA: North Atlantic Books.

1984 Further Discussion of Cognized Models. *In* Pigs for the Ancestors, enlarged ed. Roy A. Rappaport. Pp. 337-344. New Haven, CT: Yale University Press.

1999 Ritual and Religion in the Making of Humanity. Cambridge: Cambridge University Press.

Redfield, Robert

1940 Definition of Culture, as Quoted in W. F. Ogburn and N. F. Nimkoff. Sociology (1940):25.

Relph, E. C.

1976 Place and Placelessness (Research in Planning and Design). London: Pion Limited.

Ribe, Tom

2010 Inferno by Committee: A History of the Cerro Grande (Los Alamos Fire), America's Worst Prescribed Fire Disaster. Bloomington, IN: Trafford Publishing.

Roberts, Alexandra

1997 A Comparison of the Role of National Parks in America's Identity and Sacred Places in American Indian Community Identities. USDI National Park Service, Intermountain Support Office, Santa Fe, unpublished MS.

Roggenbuck, Joseph W.

2012 Managing for Wilderness Experiences in the 21st Century: Responding to the Recent Wilderness Critique. *In* Wilderness Visitor Experiences: Progress in Research and Management, April 4-7, 2011, Missoula, MT. David N. Cole, comps. Pp. 193-202. Proceedings RMRS-P-66. Fort Collins, CO: USDA Forest Service, Rocky Mountain Research Station.

Rokeach, Milton

1979 Understanding Human Values: Individual and Societal. New York: The Free Press.

Romolini, Michele, Weston Brinkley, and Kathleen L. Wolf

2012 What Is Urban Environmental Stewardship? Constructing a Practitioner-Derived Framework. Research Note: PNW-RN-566. Portland, OR: USDA Forest Service, Pacific Northwest Research Station.

Sale, Kirkpatrick

1985 Dwellers in the Land: The Bioregional Vision. San Francisco: Sierra Clubs Books.

Salmon, Enrique
2002 Sharing Breath: Some Links Between Land, Plants, and People. *In* The Colors of Nature: Culture, Identity, and the Natural World. Alison M. Deming and Lauret E. Savoy, eds. Pp. 72-89. Minneapolis, MN: Milkweed Editions.

Santayana, George
1905 The Life of Reason; or, The Phases of Human Progress, vol. 1. Introduction and Reason in Common Sense. New York: Charles Scribner's Son.

Sauer, Carl O.
1925 The Morphology of Landscape. University of California Publications in Geography 2:19–54.

Scott, D. W.
2001 "Untrammeled," "Wildernes Character," and the Challenge of Wilderness Preservation. Wild Earth 11:72-79.

Shattuck, Roger
1964 Proust's Binoculars: A Study of Memory, Time, and Recognition in 'A la recherche du temps perdu.' London: Chatto and Windus.

Silko, Leslie Marmon
1986 Landscape, History, and the Pueblo Imagination. Antaeus 57:83-94.

1995 Interior and Exterior Landscapes: The Pueblo Migration Stories. *In* Landscape in America. George F. Thompson, ed.. Pp. 155–169. Austin: University of Texas Press.

Slater, Candace
1995 Amazonia as Edenic Narrative. *In* Uncommon Ground: Rethinking the Human Place in Nature. William Cronon, ed. Pp. 132-159. New York: W. W. Norton.

Stankey, George H.
2000 Future Trends in Society and Technology: Implications for Wilderness Research and Management. *In* Wilderness Science in a Time of Change Conference. vol. 1. Changing Perspectives and Future Directions, May 23-27, 1999, Missoula, MT. David N. Cole, Stephen F. McCool, Wayne Freimund, and Jennifer O'Loughlin, comps. Pp. 10-23. Proceedings RMRS-P-15-VOL-1. Ogden, UT: USDA Forest Service, Rocky Mountain Research Station.

Starks, Helene, and Susan B. Trinidad
2007 Choose Your Method: A Comparison of Phenomenology, Discourse Analysis, and Grounded Theory. Qualitative Health Research 17:1372-1380.

Steward, Julian H.
1955 The Theory of Culture Change: The Methodology of Multilinear Evolution. Urbana: University of Illinois Press.

Stewart, William
2012 Research to Create Public Memory of Wilderness. *In* Wilderness Visitor Experiences: Progress in Research and Management, April 4-7, 2011, Missoula, MT, David N. Cole, comp. Pp. 203-210. Proceedings RMRS-P-66. Fort Collins, CO: USDA Forest Service, Rocky Mountain Research Station.

Stone, Glenn Davis
1993 Agricultural Abandonment: A Comparative Study in Historical Ecology. *In* Abandonment of Settlements and Regions: Ethnoarchaeological and Archaeological Approaches. Catherine M. Cameron and Stephen A. Tomka, eds. Pp. 74–81. Cambridge: Cambridge University Press.

Swidler, Nina, Kurt E. Dongoske, Roger Anyon, and Alan S. Downer, eds.
1997 Native Americans and Archaeologists: Stepping Stones to Common Ground. Altamira Press, Walnut Creek, CA.

Swentzell, Rina
1988 Bupingeh: The Pueblo Plaza. El Palacio 94:14–19

1991 Levels of Truth: Southwest Archaeologists and Anasazi/Pueblo People. *In* Puebloan Past and Present: Papers in Honor of Stewart Peckham. Meliha S. Duran and David T. Kirkpatrick, eds. Pp. 177–181. Archaeological Society of New Mexico 17. Albuquerque: Archaeological Society of New Mexico.

Sydoriak, Charisse A., Craig D. Allen, and Brian F. Jacobs
2000 Would Ecological Landscape Restoration Make Bandelier Wilderness More or Less of a Wilderness? *In* Wilderness Science in a Time of Change Conference. vol. 5. Wilderness Ecosystems, Threats, and Management , May 23-27, 1999, Missoula, MT. David N. Cole, Stephen F. McCool, William T. Borrie, and Jennifer O'Loughlin, comps. Pp. 209-215. Proceedings RMRS-P-15-VOL-5. Ogden, UT: USDA Forest Service, Rocky Mountain Research Station.

Taçon, P. S. C.
1999 Identifying Ancient Sacred Landscapes in Australia: From Physical to Social. *In* Archaeologies of Landscape: Contemporary Perspectives. Wendy Ashmore and A. Bernard Knapp, eds. Pp. 33–57. Malden, MA: Blackwell.

The Center for Land Grant Studies
n.d. The Treaty of Guadalupe Hidalgo. SouthwestBooks.org. Accessed on-line: 07/19/2013, http://www.southwestbooks.org/treaty.htm.

Theodorson, George A., and Achilles G. Theodorson
1969 A Modern Dictionary of Sociology. New York: Thomas Y. Crowell.

Thomas, David C.
2008 Cross-Cultural Management: Essential Concepts. 2nd ed. Sage, Thousand Oaks, CA.

Thomas, Julian
1995 The Politics of Vision and the Archaeologies of Landscape. *In* Landscape Politics and Perspectives. Barbara Bender, ed. Pp. 19–48. Providence, RI: Berg.

1996 Time, Culture, and Identity. London: Routledge.

Thomas, William I., and Florian Znaniecki
1918 The Polish Peasant in Europe and America: Monograph of an Immigrant Group. Vols. 1 and 2: Primary-Group Organization. Chicago: University of Chicago Press.

Thompson, George F.
1995 A Message to the Reader. *In* Landscape in America. George F. Thompson, ed. Pp. xi–xiv. Austin: University of Texas Press.

Thoreau, Henry David
2012 Walking. *In* The Portable Thoreau. Jeffrey S. Cramer, ed. Pp. 555-590. New York: Penguin Group.

Touchan, Ramzi, and Thomas W. Swetnam
1995 Fire History in Ponderosa and Mixed-Conifer Forests of the Jemez Mountains, Northern New Mexico. A Final Report Submitted to the USDA Forest Service, Santa Fe National Forest, and USDI National Park Service, Bandelier National Monument. Laboratory of Tree-Ring-Ring Research, University of Arizona, Tucson.

Trigger, Bruce G.
1978 Time and Traditions: Essays in Archaeological Interpretation. Edinburgh: Edinburgh University Press.

1989 A History of Archaeological Thought. Cambridge: Cambridge University Press.

1991 Distinguished Lecture in Archeology: Constraint and Freedom—A New Synthesis for Archeological Explanation. American Anthropologist 93:551–569.

Tuan, Yi-Fu
1974 Topophilia: A Study of Environmental Perception, Attitudes, and Values. New York: Columbia University Press.

1977 Space and Place: The Perspective of Experience. Minneapolis: University of Minnesota Press.

1984 Dominance and Affection: The Making of Pets. New Haven, CT: Yale University Press.

Tuan, Y., C. E. Everard, J. G. Widdison, and I. Bennett
1973 The Climate of New Mexico, revised ed. Santa Fe: New Mexico State Planning Office.

Turbeville, Eric Paul
2006 Using Place Attachment to Determine the Acceptability of Restoring Fire to Its Natural Role in Wilderness Ecosystems. Unpublished MS Thesis in Recreation Management, University of Montana, Missoula, MT.

Tylor, E. B.
1871 Primitive Culture: Researches into the Development of Mythology, Philosophy, Religion, Language, Art and Custom. London: John Murray.

United States Department of Agriculture, Forest Service
1993 Report on the Study of the Baca Location No. 1. USDA Forest Service, Southwest Region, August1993. Ms. on file, Albuquerque, NM: USDA, Forest Service, Rocky Mountain Research Station.

United States Department of Agriculture, Forest Service
2007 Joint Venture Agreement Between thr USDA Forest Service Rocky Mountain Research Station and Kurt F. Anschuetz. Ms. on file, Fort Collin, CO: USDA, Forest Service, Rocky Mountain Research Station.

United States Public Law 88-577
1998 The Wilderness Act of 1964. *In* The Great New Wilderness Debate. J. Baird Callicott and Michael P. Nelson, eds. Pp. 120-130. Athens: University of Georgia Press.

Valdez y Herrera, Roberto
2013 Roberto Here and My Suggestions Included. Email to Kurt Anschuetz, dated September 2, 2013.

2013 Re: Roberto Here and My Suggestions Included. Email to Kurt Anschuetz, dated September 4, 2013.

Vale, Thomas R., editor
2002 Fire Native Peoples, and the Natural Landscape. Washington DC: Island Press.

Valles Caldera National Preserve
2005a Board of Trustees: Overview. Accessed on-line: 6/28/2013, http://www.vallescaldera.gov/about/trust/index.aspx.

Valles Caldera National Preserve
2005b Board of Trustees: Members. Accessed on-line: 6/28/2013, http://www.vallescaldera.gov/about/trust/index.aspx.

Wagner, Phillip L.
1995 Foreword: Culture and Geography: Thirty Years of Advance. *In* Re-reading Cultural Geography. Kenneth E. Foote, Peter J. Hugill, Kent Mathewson, and Jonathan M. Smith, eds. Pp. 3–8. Austin: University of Texas Press.

Watson, Patty Jo
1995 Archaeology, Anthropology, and the Culture Concept. American Anthropologist 97:683-694.

Watson, Alan E.
2000 Wilderness Use in the Year 2000: Societal Changes That Influence Human Relationships with Wilderness. *In* Wilderness Science in a Time of Change Conference. vol. 4. Wilderness Visitors Experiences, and Visitor Management , May 23-27, 1999, Missoula, MT. David N. Cole, Stephen F. McCool, William T. Borrie, and Jennifer O'Loughlin, comps. Pp. 53-60. Proceedings RMRS-P-15-VOL-4. Ogden, UT: USDA, Forest Service, Rocky Mountain Research Station.

White, Arvin L.
1993 Accident Investigation Report, Buchanan Prescribed Burn, June 19, 1993: Firefighter Fatality and Fire Shelter Deployments. Santa Fe National Forest, April 22, 1993. Albuquerque, NM: USDA Forest Service. Southwest Region. Accessed on-line: 5/28/2013, http://wildfirelessons.net/documents/Buchanan_Rx_Burn_Investigation_1993.pdf.

White, Leslie A.
1949 The Science of Culture. New York: Grove Press.

1959 The Concept of Culture. American Anthropologist 61(2):227-251.

1987 [1962] Symboling a Kind of Behavior. *In* Leslie A. White: Ethnological Essays. B. Dillingham and R. L. Carneiro, eds. Pp. 273-278. Albuquerque: University of New Mexico Press.

Whorf, Benjamin Lee
1956a [1940] Science and Linguistics. *In* Language, Thought and Reality: Selected Writings of Benjamin Lee Whorf. J. B. Carroll, ed. Pp. 207-219. Cambridge: Massachusetts Institute of Technology Press.

Williams, Daniel R.
2000 Personal and Social Meanings of Wilderness: Constructing and Contesting Place in a Global Village. *In* Sixth World Wilderness Congress Proceedings on Research, Management and Allocation, vol. 2. Personal, Societal, and Ecological Values of

Wilderness, October 24-29, 1998, Bangalore, India. Alan E. Watson, Greg H. Aplet, and John C. Hendee, comps. Pp. 77-82. Proceedings RMRS-P-14. Ogden UT: USDA, Forest Service, Rocky Mountain Research Station.

Williams, Daniel R., B. Scott Anderson, Cary D. McDonald, and Michael E. Patterson
1995 Measuring Place Attachment: More Preliminary Results. Paper presented at National Recreation and Park Association Leisure Research Symposium, October 4-8, 1995, San Antonio, TX.

Williams, Daniel R., and Michael E. Patterson
1999 Environmental Psychology: Mapping Landscape Meanings for Ecosystem Management. *In* Integrating Social Sciences with Ecosystem Management: Human Dimensions in Assessment, Policy, and Management. H. Ken Cordell and John C. Bergstrom, eds. Pp. 141-160. Champaign, IL: Sagamore.

Williams, Daniel R., Michael E. Patterson, Joseph W. Roggenbuck, and Alan E. Watson
1992 Beyond the Commodity Metaphor: Examining Emotional and Symbolic Attachment to Place. Leisure Sciences 14(1):29-46.

Williams, Daniel R., and Joseph W. Roggenbuck
1989 Measuring Place Attachment: Some Preliminary Results. Unpublished Report from the NRPA Leisure Research Symposium. San Antonio, TX.

Williams, Daniel R., and Jerry J. Vaske
2003 The Measurement of Place Attachment: Validity and Generalizability of a Psychometric Approach. Forest Science 49(6), 1-11.

Williams, Raymond
1983 [1976] Keywords: A Vocabulary of Culture and Society. rev. ed. New York: Oxford University Press.

Winter, Patricia L., and George T. Cvetkovich
2003 A Study of Southwesterners' Opinions on the Management of Wildfire and Wilderness Fires: Fire Management Version. Riverside, CA: Wildland Recreation and Urban Cultures, Pacific Southwest Research Station, USDA Forest Service, and Bellingham, WA: Western Social Science Research Institute, Western Washington University.

Witcombe, Christopher L. C. E.
2003 Venus of Willendorf. rev. Art History Resources on the Web. Accessed on-line: 2/01/2012, http://arthistoryresources.net/willendorf/willendorfdiscovery.html. Originally published on-line 2000.

Wolf, Eric R.
1982 Europe and the People without History. Berkeley: University of California Press.

Wolfe, Linnie Marsh, ed.
1938 John of the Mountains: The Unpublished Journals of John Muir. Boston, MA: Houghton Mifflin.

Worster, Donald
1993 The Wealth of Nature: Environmental History and the Ecological Imagination. New York: Oxford University Press.

Wuernthner, George, editor
2006 The Wild Fire Reader: A Century of Failed Forest Policy. Washington DC: Island Press.

Zahniser, Howard
1956 The Need for Wilderness areas. The Living Wilderness 59(Winter Spring):37-43.

1963 Editorial: Guardians not Gardeners. The Living Wilderness 83(Spring-Summer):2.

Zube, Ervin H.
1994 Values and Planning in Arid/Semi-arid Landscapes: Conflict and Compromise. Mass 10:1–5.

APPENDIX I

General Expert Interview Instrument

GENERAL EXPERT INTERVIEW INSTRUMENT

USE, ACCESS, AND FIRE/FUELS MANAGEMENT ATTITUDES AND PREFERENCES OF USER GROUPS CONCERNING THE VALLES CALDERA NATIONAL PRESERVE (VCNP) AND ADJACENT AREAS

Forest Service Joint Venture Agreement Number: 07-JV-11221602
Cooperator Agreement Number: KFA 2007-026

USDA Forest Service Rocky Mountain Research Station
333 Broadway SE, Suite 115
Albuquerque, NM 87102-3497
(505) 724-3666
(505) 724-3688

Personal/Family Information

1. Name.

2. Place and Date of Birth.

3. Have you and your family always lived in northern New Mexico?
   a. If not, what circumstances brought you/your family here?
   b. When?

4. Please give us background about your academic training.

5. Please give us background about your personal and professional relationship(s) with the Valles Caldera National Preserve (the Valles) and the surrounding mountains.
   a. Personal.
   b. Professional.

6. Please talk about your background and interest in fire and fire fuels management.
   a. On a scale of 1 to 10, how well informed do you consider yourself to be about wildfire and wildfire risks?

1	2	3	4	5	6	7	8	9	10

   b. Please explain.

Personal Experience with Wildfire

7. What experiences have you had with catastrophic wildfires?
   a. ___ My house and/or structures on my property were damaged or destroyed.
      1. Please explain.

   b. ___ There have been fires within 1 mile of my property or where I work.
      1. Please explain.

   c. ___ There have been fires between 1 and 5 miles of my property or where I work.
      1. Please explain.

   d. ___ I have been evacuated from my house or place of employment because of the threat of catastrophic fire.
      1. Please explain.

   e. ___ I have fought wildfires.
      1. Please explain.

Views of Nature, Wilderness, and Resource Management

8. What is wilderness?

9. What are the characteristics of a pristine natural landscape?

10. Are the VCNP and the surrounding Jemez Mountains examples of wilderness and natural landscapes?

11. Why are the Valles and the surrounding areas important to you as an individual? To your family? To your community? To the United States?

12. How do you think that the VCNP should approach the management of the Valles?

13. How do you think that the SFNF should approach the management of the mountains surrounding the Valles?

If a respondent expresses that the VCNP and SFNF have different management goals and responsibilities (i.e., "one shoe does not fit all"), then:

14. How is the VCNP different than the SFNF?

15. Is it important to maintain this difference?

Views of Fire and Fire Fuels Management

The interview will now collect information about each Expert's views of fire in general, as well as their assessment of specific fuels management strategies and tactics in the Valles and in the adjoining SFNF that respondents have either formally researched (through a focused series of readings or attendance in public hearing, workshops, and/or symposia examining the topic) or have learned about informally (through popularized media accounts or passing conversations with others). This discussion will explore general eight topics concerning fire and fuels management.

16. Wildfire is bad.

1. Strongly Disagree	2. Disagree	3. Neutral	4. Agree	5. Strongly Agree

a. Please explain.

17. Aggressive suppression of wildfire is a good thing.

1. Strongly Disagree	2. Disagree	3. Neutral	4. Agree	5. Strongly Agree

a. Please explain.

18. Big fires are the result of too much available fuel.

1. Strongly Disagree	2. Disagree	3. Neutral	4. Agree	5. Strongly Agree

a. Please explain.

19. Fire "destroys" forests and wildlife.

1. Strongly Disagree	2. Disagree	3. Neutral	4. Agree	5. Strongly Agree

a. Please explain.

20. Fire "sterilizes" the land.

1. Strongly Disagree	2. Disagree	3. Neutral	4. Agree	5. Strongly Agree

a. Please explain.

21. Livestock grazing can prevent wildfires.

1. Strongly Disagree	2. Disagree	3. Neutral	4. Agree	5. Strongly Agree

a. Please explain.

22. Logging mimics wildfire.

1. Strongly Disagree	2. Disagree	3. Neutral	4. Agree	5. Strongly Agree

a. Please explain.

23. Trees, both living and downed, are the focus of wildfire management.

1. Strongly Disagree	2. Disagree	3. Neutral	4. Agree	5. Strongly Agree

a. Please explain.

24. Prescribed burning is a substitute for wildfire.

1. Strongly Disagree	2. Disagree	3. Neutral	4. Agree	5. Strongly Agree

a. Please explain.

Perceptions of Wildfire Risk

Building from this background, the interview will now examine each interviewee's assessment of the risk that wildfire poses to the VCNP and the surrounding Jemez Mountains. The discussion is constructed to collect information about the respondents' views of wildfire risk in terms of four dimensions: (1) probability, (2) intensity, (3) spatial extent, and (4) duration of wildfire's probable consequences.

25. How likely do you believe is it that the Valles and the surrounding area will experience wildfire in the future?
    a. Identify the time frame for your assessment (e.g., within the next 5 years, within the next 10 years).
    b. Upon what factors do you rely in making your probability statement?

26. How often do you think that wildfires will occur within the Jemez Mountains area during this century?

27. What do you think that such fires will look like?
    a. Do you expect them to be relatively cool, ground fires, or do you think that they will more likely be hot fires that burn across treetops?
    b. Upon what factors do you rely in making this assessment?

28. How large do you think such fires likely will grow?

29. Would such wildfires be controllable?

30. What, if any, limits should fire managers incorporate into their planning?

31. What will be the lasting consequences of the wildfires that you foresee happening?

32. Considering the damages that you expect to occur, how long do you think that it will take before the forests are restored?

33. If a wildfire such as you describe should take within the coming decade, how do you anticipate your relationship with the Valles and the surrounding area might change?

Approaches for Appropriate Wildfire and Fuels Management

The preceding topics of discussion provide the context for framing and evaluating specific questions about fire and fuels management within the VCNP and the nearby Jemez Mountains.

34. What are your concerns and preferences with regard to:
    a. Fire and fuels management in the Valles and in the surrounding portions of the Jemez Mountains?
    b. Elk and other game management in the Valles and the surrounding area?
    c. Cattle and cattle management in the Valles and in the surrounding area?
    d. Logging in the Valles and in the surrounding area?
    e. Enhancing the habitat for native plants and animals?
    f. Preservation of a "wilderness experience?"
    g. Creation and maintenance of recreational opportunities?
    h. Maintenance and enhancement of opportunities by the region's traditional and historical communities for established cultural uses, such as plant gathering, pilgrimage and other ritual observances, and fuel wood.
    i. Water quantity and quality in the Valles and in the surrounding area?

35. How do you view the relationship among fire, game, cattle and other livestock, and logging?

36. To what extent have you and your family relied, and to what extent do you rely now, on native plants, such as pinyon nuts and herbs, from the Valles area?

37. To what extent have you and your family relied, and to what extent do you rely now, on native game (deer, elk, turkey) and fish (especially trout) from the Valles area?

38. What do you recommend for fuels management?
    a. Do you think that prescribed burning is effective?
    b. How serious is the risk that a prescribed burn will again escape?
    c. Do you have health concerns, such as smoke inhalation, about prescribed burning?
    d. Do you have other concerns about prescribed burning?

39. How effective do you think other fuel treatment options are?
    a. What are your views on the mechanical thinning of small diameter trees?
    b. What are your views on logging large and small diameter trees?
        1. Do you think that small-scale locally-owned timber operations that produce specialty products, such as vigas, latillas, and coyote fencing, can contribute to the effort of thinning forests while generating revenues and providing employment opportunities?
    c. What are your views on herbicide use?
        1. Habitat structure--issues of density and diversity of desired vs. unwanted plant species).
        2. Water quality.

40. How effective do you think combination treatments are?
    a. Prescribe burns and mechanical thinning.
    b. Prescribed burns and herbicide use,
    c. Mechanical thinning and herbicide use.

41. Do you think that community-based initiatives, such as those involving the reduction of fire fuel loads, enhancing habitats for desired plants and animals, and maintaining or improving water quality could be or should be incorporated into the tool box of fire and fuels management options?

42. How do you feel about the option of no active fire management except to protect homes, other buildings, and infrastructure?

Values and Beliefs

This part of the interview instrument provides Experts with an opportunity to express their views of what fire and fuels management practice should include to fulfill their expectations of an appropriate environmental or wilderness ethic.

43. Do you feel that the VCNP and the SFNF share your values for sustaining the area's environment and landscape in their fire and fuels management efforts?
    a. Please explain.

44. Do you feel that the VCNP and the Forest Service share your goals values for sustaining the area's environment and landscape in their fire and fuels management efforts?
    a. Please explain.

45. Do you feel that the VCNP and the Forest Service listen to your opinions and include your views in their developing their fire and fuels management efforts?

a. Please explain.

46. Do you trust the efforts by the VCNP and the Forest Service to manage fire and fuels in the Valles and the surrounding areas?
    a. Please explain.

Experts' Specific Knowledge and Concerns of Experts

This final part of the interview consists of a free-form dialogue that allows Experts the opportunity to emphasize issues that they consider important.

APPENDIX II

Interview Consent Form

INTERVIEW CONSENT FORM

USE, ACCESS, AND FIRE/FUELS MANAGEMENT ATTITUDES AND PREFERENCES OF USER GROUPS CONCERNING
THE VALLES CALDERA NATIONAL PRESERVE (VCNP) AND ADJACENT AREAS

Forest Service Joint Venture Agreement Number: 07-JV-11221602
Cooperator Agreement Number: KFA 2007-026

USDA Forest Service Rocky Mountain Research Station
333 Broadway SE, Suite 115
Albuquerque, NM 87102-3497
(505) 724-3666
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As the project's Principal Investigators, Dr. Kurt F. Anschuetz, Consulting Anthropologist/Archeologist, and Dr. Carol B. Raish, USDA Forest Service Rocky Mountain Research Station, have explained in their introductory correspondence and the initial, informal "get-to-know-one another" meeting, they request your permission to document this Expert Interview using a variety of media, including hand written notes, audiotape/digital voice recorder, and photographs.

If you grant your permission to Drs. Anschuetz and Raish to document this interview with any (or all) of the above-mentioned media, they further request your permission to transcribe the discussion word-for-word and to include excerpts of this transcript in the project report(s).

1. I will allow the interviewer(s) record the information I give them in the following ways (check any of the following that apply):
___ Written notes
___ Audiotape/digital voice recorder
___ Photographs
___ Transcription/translation of the audiotape/digital voice recorder record
___ Other (specify): _____

2. I will allow the interviewer(s) use my information in their final report(s). Yes:_____ No:_____

3. In addition, I allow the following uses of my information (check any of the following that apply):
___ Using my name in the final report
___ Putting some of my statements word-for-word in the report
___ Putting in a photo of me in the report(s)
___ Placing the records checked in Item 1 at the Rocky Mountain Research Stations for permanent curation. I understand that other investigators in the future might view these records without my explicit knowledge.

4. I would like copies of the following:
___ Records checked in item 1:
___ Written notes
___ Audiotape/digital voice recorder documentation
___ Photographs
___ Transcription/translation of the original and revised audiotape/digital voice recorder records
___ Other (specify): _____

___ Final project report(s)

5. I would like to read/edit:
___ All transcriptions of the audiotape/digital voice recorder documentation
___ Summaries of my statements in draft final project report(s)
___ Direct quotes of me in draft final project report(s)
___ Other (specify):_____

Interviewee's Signature:_____Date:_____

Address:

_____

_____

Telephone:

E-mail:

* * * * * *

INTERVIEWER USE OF RECORDS OF THIS INTERVIEW*

We (i.e., Kurt F. Anschuetz and Carol B. Raish) will not use any records of this interview other than those filed with the Forest Service Rocky Mountain Research Station for purposes other than the project identified on this form.

Interviewer's Signature:_____Date:_____
Kurt F. Anschuetz, Consulting Anthropologist/Archeologist

Address: 6228 Calle Pinon NW
Albuquerque, NM 87114
Telephone: (505) 294-9709
Fax: (505) 294-9709
E-mail: kanschuetz@comcast.net

Interviewer's Signature:_____Date:_____
Carol B. Raish Research Social Scientist

Address: USDA Forest Service Rocky Mountain Research Station
333 Broadway SE, Suite 115
Albuquerque, NM 87102-3497
Telephone: (505) 724-3666
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*PLEASE NOTE: Any information retained by the USDA Forest Service Rocky Mountain Research Station will be kept confidential to the maximum extent permitted by the Freedom of Information Act. The USDA Forest

Service Rocky Mountain Research Station, however, cannot guarantee strict confidentiality of any records placed in its files for permanent curation.

APPENDIX III

Tribal Project Introduction Letter Template

KURT F. ANSCHUETZ, PH.D.
Consulting Anthropologist/Archaeologist

6228 Calle Pinon NW
Albuquerque, New Mexico 87114

TEL & FAX: (505) 294-9709
kanschuetz@comcast.net

Date

Address Line 1
Address Line 2
Address Line 3
Address Line 4

Dear Name:

Please consider this invitation to participate in a series of conversations that we are conducting concerning people's views and understandings of fire and fuels management for the Valles Caldera National Preserve (VCNP) and the Jemez Mountains. We recognize that your Tribe is a sovereign government, but we also know that your Tribe has knowledgeable people who can contribute valuable information and perspective.

The USDA Forest Service, which is partnering with the VCNP in sponsoring this undertaking, has given this project a hefty administrative title: *Use, Access, and Fire/Fuels Management Attitudes and Preferences of User Groups Concerning the Valles Caldera National Preserve (VCNP) and Adjacent Areas.* Our work consists of a series expert interviews with knowledgeable individuals from culturally and historically diverse Native American, Hispanic and Anglo communities, which are either close to, or maintain a special relationship with, the VCNP and the surrounding Jemez Mountains. We have included a Fact Sheet that summarizes key information about this initiative.

The information and perspectives compiled during this work will not constitute a government-to-government consultation between the USDA Forest Service, the VCNP, or any other entity. This work will not be used as the basis for developing new policy in lieu of government-to-government consultation. This work will be used by managers to implement existing policy. The information obtained through conversations with the Tribes, however, possesses the potential to increase awareness of the need for formal government-to-government consultations on issues raised during this research.

We appreciate that you might have concerns about the possibility of participants inadvertently disclosing certain information about your Tribe's relationship with the VCNP and the Jemez Mountains. We feel that it is important to make ourselves available to meet with Tribes to identify ways to work together in a collaborative undertaking based on mutual respect. We hope that you or someone from your staff will be willing to meet with us to learn more about the purpose, scope, and methods of this project. We will also welcome this meeting opportunity to

discuss your community's concerns about the project and the steps that we can take to address these concerns before beginning interviews. Toward these ends, we will appreciate receiving a point of contact from your Tribe.

If your Tribe decides to participate in these proceedings, we will request your assistance in identifying individuals who either are highly knowledgeable of the VCNP and/or the Jemez Mountains directly through their personal interests or activities, or have an interest in the study area and experience in issues related to range or watershed management, fire fuels reduction, ranching, timber operations, education, or heritage resources management. We will then contact these persons to discuss their interests in the VCNP or Jemez Mountains, their willingness to participate in a formal interview, and what they perceive to be the scope of their contributions. We will also use this opportunity to explain their privileges as Collaborating Experts, including their right to review the documentation and use of their contributions throughout all phases in the compilation and final reporting of this research. We ideally would like to recruit at least one, but no more than three, persons with diverse interests from your community to participate in the project as Collaborating Experts.

Please do not hesitate to contact us when you review this invitation if you have any questions and would like additional information.

We look forward to hearing back from you at your convenience. We hope that you will decide to learn more about our invitation to your Tribe to participate in this initiative.

Respectfully,

Signature 1

Kurt F. Anschuetz, Ph.D.
Consulting Archaeologist/Anthropologist
6228 Calle Pinon NW
Albuquerque, NM 87114
Telephone: 505-294-9709 or 505-681-6933
kanschuetz@comcast.net

Signature 2

Carol B. Raish, Ph.D.
Research Social Scientist
USDA Forest Service Rocky Mountain Research Station
333 Broadway SE, Ste. 115
Albuquerque, NM 87102
Telephone: 505-724-3666
craish@fs.fed.us

Enclosure

cc.

FACT SHEET

INVITATION TO PARTICIPATE IN RESEARCH FOCUSING ON THE VALLES CALDERA NATIONAL PRESERVE (VCNP) AND THE JEMEZ MOUNTAINS

Project Title: *Use, Access, and Fire/Fuels Management Attitudes and Preferences of User Groups Concerning the Valles Caldera National Preserve (VCNP) and Adjacent Areas.*

Project Sponsors: USDA Forest Service and VCNP.

Scope of Research: Expert interviews with knowledgeable individuals from culturally and historically diverse Native American, Hispanic and Anglo communities, which are either close to, or maintain a special relationship with, the VCNP and the surrounding Jemez Mountains.

Purpose: To document and provide context for the range of opinion among area residents and stakeholders about actions that either:

- Help sustain the qualities of the VCNP and Jemez Mountains landscapes that they value, or
- Detract from their relationship with these places.

General Discussion Topics:

- What are appropriate and inappropriate approaches to fire and fuels management?
- What is the appropriate management of the VCNP in terms of access, grazing, logging, hunting, recreation, and heritage resources management?
- How are the VCNP and Jemez Mountains important in regard to climate change concerns?

Necessary Qualifications:

- First-hand knowledge of the VCNP and/or the Jemez Mountains through their personal interests or activities, or
- Interests in the study area, and experience in range or watershed management, fire fuels reduction, ranching, timbering, education, or heritage resources management.

Interview Structure:

- Two- to three-hour-long discussions with one, but not more than three, Collaborating Experts.
- Semi-structured conversations based on each Collaborator's areas of interest, expertise, and comfort.

Honoraria: Because we are asking individuals with expert knowledge to share considerably of their experience and time, we are pleased to offer an honorarium of $250.00 to each Collaborating Expert.

Rights: Collaborating Experts retain the right to review the documentation and use of their contributions throughout the compilation and reporting of this research.

Distribution of Research Findings: USDA Forest Service, Rocky Mountain Research Station, General Technical Report Series.

Target Audience for Research Findings: Land managers, including the USDA Forest Service and the VCNP, researchers interested in fire management approaches, and members of the general public.

To request more information or to express concerns about this research, please contact:

Kurt F. Anschuetz, Ph.D.
Consulting Archaeologist/Anthropologist
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Albuquerque, NM 87114
Telephone: 505-294-9709 or 505-681-6933
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Carol B. Raish, Ph.D.
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APPENDIX IV

Interview Data Codes

Interview Data Codes

Topic	Code	Description
I	**10000**	**Public Perceptions I: Wildfire**
	11000	Wildfire as Bad Thing vs. Part of Natural Systems
	11100	Loving Our Forests to Death Through Aggressive Suppression
	11200	A Constant in the Region's Natural History
	11300	Inevitability of Wildfire in Today's Pine Forests
	11400	Canary in the Coal Mine
	11410	An Ecological System Out of Balance
	11420	Climate Change
	12000	"Smokey Bear" and "Bambi" Syndromes
	12100	Media and the Conditioning Role of Language and Images of Fire
	12110	Widespread Devastation of Forest Fires vs. Beneficial Ecosystem Renewal
	12120	Something to be Fought as Unconditional War
	12130	Firemen as Today's Heroic Cowboys
	13000	The Value of Fighting Big, Catastrophic Fires
	13100	Are Big Fires Controllable?
	13110	Challenges of Wind Events
	13120	Challenges of Existing Fire Fuel Loads
	13130	Challenges of Interacting with a System Out of Balance
	13200	Value of Spending Public Funds on Backcountry Wildfires
	13210	Doing Something or Nothing
	14000	Post-Fire Forest Recovery
	14100	Grief for Loss; Hope Through Renewal
II	**20000**	**Wildfire Management**
	21000	Need for Holistic Planning Over the Long Term
	22000	"Let Burn": Doing Nothing in an Ecosystem That Seeks to Reset Itself
	22100	When Bigger Might Be Better
	22200	Value of Mosaic Burns
	23000	Passive-Aggressive Approaches
	23100	Herding Fires in the Backcountry
	2400	Conservative-Aggressive Fire Suppression
	24100	Urban Interface
	24200	Old Forest Stands
	25000	Who Makes the Call?
	25100	Does One Size Fit All?

Interview Data Codes (cont'd.)

Topic	Code	Description
II (cont'd.)	25110	Latitude to Make Decisions Based on Local Factors?
	21111	Fire History
	21112	Physiography
	21113	Weather at the Time of the Burns
	25200	Need for Interagency Coordination and Cooperation
	25300	Necessity of Local Communities, Local Experience
	26000	When Things Go Terribly Wrong
	26100	Learning From Past Mistakes in Preparing for the Future
	26110	Amnesty or Amnesia?
	26111	Encouraging Fire Managers to Critique Past Efforts
	27000	Post-Fire Forest Restoration
	27100	Erosion
	27200	Downside of Aggressive Reseeding
	27210	Response to Community Pressure to Do Something Proactive
	27220	Introduction of Invasive Species
	27300	People's Changed Relationship
	27400	Beneficial Aspects to Forest Ecology
III	**30000**	**Fire Fuels Management**
	31000	Prescribed Burning
	31100	Challenges Created by Successful, Long-Term Fire Suppression
	31110	Need for Hot Burns to Kill Larger Saplings
	31200	Can Prescribed Burns Mimic Natural Wildfire?
	31210	Are Mosaic Burns Possible?
	31300	Need for Continual Maintenance Over the Long-Term
	31310	Public Relations
	31311	When Not Doing May Be the Right Thing in the Backcountry
	31311.1	Importance of Trust
	31311.2	Importance of Public Education
	31312	Smoke in the Air, Fire in the Backyard on the Urban Interface
	31312.1	Importance of Trust
	31312.2	Importance of Public Education
	31313	Health Issues
	31313.1	Delicate Balance of Managing Smoke Sensitivities and Fire Fuels
	31400	Post-Prescribed Burn Consequences

Interview Data Codes (cont'd.)

Topic	Code	Description
III (cont'd.)	31500	Prescribed Burning and Other Fire Fuels Measures in the VCNP
	32000	Thinning, Mastication, and Mulching
	32100	Who Makes the Thinning Decisions and On What Basis?
	32200	Contract Thinning Operations
	32300	Partnership with Local Businesses
	32310	Small-scale lumber operations
	32311	*Vigas*, *latillas*, Coyote Fences, etc. v
	32320	Fuel wood cutting
	32400	Challenges of Accessibility
	32500	Risk of Transforming "Wild" Forests into "Plantations"
	32000	Are Herbicides Tools Worthy of Consideration?
	34000	Landowner Responsibilities
	34100	Public Expectations
	34200	Interagency Coordination
	34300	Homeowners' Responsibilities and Liability Issues
IV	**40000**	**Public Perceptions II: Wilderness**
	41000	Wilderness
	42000	Pristine Conditions
	43000	Landscape
	43100	Relationship Between Center and Edge
	44000	Necessity of Solitude
	44100	Sound/Silence
	44200	Light
	44300	Wildlife
	44400	Disruptions/Disturbances
	44410	Too Narrowly Delimited Hours for Visitation
	44420	Cattle
	44430	Utility Lines
	44440	Motorized Vehicles
	44450	Problem with Group Events
	44460	Uninviting Overgrown Forests
V	**50000**	**Multiple Use in the VCNP**
	51000	Livestock Ranching
	51100	Management Models
	51000	Rotation of Range and Recreation Areas to Reduce Potential for Conflict

Interview Data Codes (cont'd.)

Topic	Code	Description
V (cont'd.)	51200	Commercial Enterprise vs. Traditional Practice
	51210	Recommendations for Improvements
	51211	Longer Contract Periods
	51212	Expand Grazing Tracts
	51213	Reduce Impact on Riparian
	52000	Logging
	52100	Management Models
	52110	Sustainable Logging Commercial Enterprise
	52120	Fuel Wood
	53000	Recreation
	53100	Management Models
	53110	Staged/Scaled Access
	53120	Ecotourism
	53121	Partnerships with Local Entrepreneurs
	53122	Assist with Population Control
	53123	Information and Education
	53200	Challenge of Not Loving the VCNP to Death
	53210	Over protection
	53220	Over Use
	53300	Interviewees' Views and Recommendations
	53310	Hiking
	53311	Rim Trail
	53320	Fly Fishing
	53330	Cross-Country Skiing
	53340	Mountain Biking
	53350	Bird Watching
	53360	Camping
	53370	Horseback Riding
	53380	Motorized Vehicles
	53390	Art
	53398	Special Events
	53399	Ranch Programming as Revenue Generating Recreational Venture
	53400	Need for a Visitors Center and Other Infrastructure
	54000	Elk and Other Wildlife
	54100	Hunting

Interview Data Codes (cont'd.)

Topic	Code	Description
V (cont'd.)	54110	Elk
	54120	Turkeys
	54130	Deer
	54140	Big Horn Sheep
	55000	Habitat Restoration
	56000	Watershed Protection
	57000	Education as the Common Ground
	58000	Constituency
	59000	Heritage resources
VI	**60000**	**Recasting VCNP as Education and Science Center**
	61000	Los Alamos Ranch School Tradition Revitalized and Updated
	62000	Prescribed Burns: Friendlier Side of Fire and Fuels Management
	62100	Experimentation with Techniques
	62110	Better Understand Fire Behavior Under Different Circumstances
	62120	Monitor Alternative Restoration Treatments
	62200	Public Education Programs
	62210	Forest Ecology
	62220	Fire Ecology
	62230	Fire and Fuels Management
	62240	Restoration/Recovery
	62241	Bringing the Wilderness Back into the Preserve
	63000	In-field Component of Curricula
	63100	Environmental Documentation
	63200	Community Service
	64000	Trail Building
	64100	Philmount Ranch Model for Building a Trail System
VII	**70000**	**Management Models for the VCNP**
	71000	USDA Forest Service
	72000	National Park Service
	73000	National Wildlife Preserve
VIII	**80000**	**Other Issues and Topics**
	81000	Egalitarianism
	81100	Recreational Access
	81200	Access to Entrepreneurial Enterprises
	82000	Advocacy and the Need for Advocates

Interview Data Codes (cont'd.)

Topic	Code	Description
VIII (cont'd.)	82100	VCNP as a Poor Neighbor
	82200	Perception that Los Alamos's Expertise and Needs Overlooked
	83000	Views of the Enabling Legislation
	83100	VCNP as a Working Ranch
	83200	Board of Trustees
	83300	Self-Sufficiency
	83400	Relations with Affiliated Tribes
	84000	Other
	84100	Need for Access to Government's Liability Insurance Pool
	84200	State of New Mexico Game and Fish
	84300	Wolves/Predators
IX	**90000**	**Other topics**
	99991	Fire ecology
	99992	Fire history
	99993	Culture history
X	**100000**	**Traditional Uses of the Mountain**
	101000	Fuel Wood
	101100	Mountain vs. Valley
	101110	Mountain
	101111	Juniper
	101112	Piñon
	101113	Ponderosa
	101114	Other Mountain Woods
	101120	Valley
	101121	Cottonwood
	101122	Other Valley Woods
	101200	Strategies, Techniques, and Attitudes
	101210	Heating, Cooking, Pottery Firing
	101220	Selection
	101221	Living Trees
	101222	Dead and Down
	101223	Pruning
	101230	Woodcutting Practices
	101231	Hand Tools
	101232	Chain Saws

Interview Data Codes (cont'd.)

Topic	Code	Description
X (cont'd.)	101233	Transportation
	101234	Cattlemen
	101235	Children
	101236	Groups of Families
	101240	Blocking
	101250	Splitting
	101260	Kindling
	101270	Seasonality
	101300	Permits
	102000	Other Wood Uses
	102100	*Vigas* and *latillas*
	102200	Corral Posts and Poles
	102300	Art
	103000	Logging
	104000	Plant gathering
	104100	Piñon Gathering
	104110	Social organization
	104120	Division of Labor
	104130	Seasonality
	104140	Economic Importance
	104141	Subsistence
	104142	Market
	104200	Other Plants
	104210	Seasonality
	104220	Uses
	105000	Hunting
	105100	Game Animals
	105110	Deer
	105120	Elk
	105130	Mountain sheep
	105140	Rabbits
	105150	Other
	105200	Game birds
	105210	Turkey
	105220	Grouse

Interview Data Codes (cont'd.)

Topic	Code	Description
X (cont'd.)	105230	Pigeons
	105240	Other
	105300	Licenses
	106000	Fishing
	106100	Techniques
	106200	Licenses
	107000	Mineral Collection
	107100	Clay
	107200	Piki Stones
	107300	Permits
	108000	Ranching
	108100	Areas used
	108110	Access
	108120	Practices
	108130	Permits
	108200	Organization
	108210	Personal/Family Use
	108220	Business
	108300	Importance
	108310	Economic
	108320	Heritage
	109000	Farming
	109100	Location
	109200	Crops
	109980	Camping
	109999	Water
XI	**110000**	**Views, Attitudes and Perceptions of the Mountain by Traditional and Historic Communities**
	41000	Wilderness (recoded from 110000)
	112000	Use Areas
	112100	Meadows and Drainages as Pathways
	112200	Physiography and Watershed
	112300	Seasonality
	112310	Cumulative Year-Round Activity
	112400	Residence
	113000	Livelihood

Interview Data Codes (cont'd.)

Topic	Code	Description
XIII (cont'd.)	113100	Making a Living
	113200	Earning a Living
	113210	Stewardship
	113220	Cultural Geography
	113221	Querencia/Topophilia
	114000	Education
	114100	Learning and Teaching
	114200	Privileged Knowledge
	114300	Community Identity and Cultural Survival
	114400	Implications for Management Consultations
	114500	Experience
	114600	Remembering Earlier Lessons
	114700	"Visiting"
XII	**120000**	**Fire in the Jemez Mountain**
	121000	Traditional Knowledge of Fire and Fire History
	121100	Forest Health
	122000	Traditional Stories about Fire
	123000	Traditional Typology of Forest Fires
	123100	Natural Ignition
	123200	Human Ignition
	123210	Why Are These Distinctions Important?
	124000	Cerro Grande and Other Prior Fires
	125000	Las Conchas Fire
	126000	Fire Fuels
	126100	Buildup
	126200	Treatment
	127000	Common Sense
	128000	Prescribed Fire
	129000	Fire Fighting Strategies
XIII	**130000**	**Access into the Jemez Mountains**
	131000	Commons
	132000	Contemporary Ownership, Including Governmental Administration
	132100	The Problem with Political Boundaries in a Traditional World
	132110	"Passports"
	132120	MOUs

Interview Data Codes (cont'd.)

Topic	Code	Description
XIII (cont'd.)	132130	Permits
	132140	Keys
	141100	Road Closures (recoded from 132150)
	132160	"Trespass"
XIV	**140000**	**Regional Management Planning and Administration**
	141000	Policies
	141100	Road Closures
	141200	Watersheds
	142000	Amenities
	143000	Local Tax Revenues
	114000	"National Service Days"
	145000	Sweat Equity
	146000	Community Service Programs
XV	**150000**	**Relationships among Communities**
	151000	Sharing and Cooperation
	152000	Competition
	153000	Priority
XVI	**160000**	**Traditional Management**
	161000	World View
	161100	Language
	161110	Primary Orality
	161120	Metaphor
	161200	Place Naming
	161300	"The Spiral"
	161400	Expectations
	162000	Commodification of the Land and Its Resources
	163000	Restoration vs. Regeneration
	163100	General Observations
	163200	Post-fire
	164000	Reintroduction of Animal Species
	164100	Mountain Sheep
	164200	Predators
	165000	Community-Based Management
	165100	Traditional Knowledge
	165110	Interconnectedness and Relationship

Interview Data Codes (cont'd.)

Topic	Code	Description
XVI (cont'd.)	165120	Remembering
	165200	Permaculture
	165210	Seed Balls
	165300	Benefits to Communities
	166000	Reseeding
	166100	Native plants
	166200	Invasive plants
	167000	Preservation
	167100	Idea of "Preserves"
	167200	"The Pickle Problem"
	168000	Community Health
XVII	**170000**	**Collaboration Among Government Agencies**
XVIII	**180000**	**Relationships Between Government Agencies and Affiliated Communities**
	181000	Common Sense
	1820000	Paternalism
	182100	Science as Privileged Knowledge
	182200	Traditional Community Knowledge Depreciated
	183000	Fear/Resistance
	184000	"The Divorce"
	185000	Trust/Respect
	186000	Community Membership
	186100	Responsibility
	187000	Government-to-Government
	188000	Collaboration/Co-management
	189000	Other
XIX	**190000**	**Changes in the Environment**
	191000	Ecological Change (consider using code 11420 instead)
	191100	Fire
	191200	Historical Conceptions/Ideals Might No Longer Be Appropriate
	192000	Other Changes
	193000	Logging
XX	**200000**	**Government Programs**
	201000	CCC/WPA
	202000	Other

Interview Data Codes (cont'd.)

Topic	Code	Description
XX (cont'd.)	203000	Renewal of Programs for the Twenty-First Century
	203100	Employment
	203200	Education